

7B
83-B
8185

*Notes on Abbreviations in
Greek Manuscripts*

BY

T. W. ALLEN

QUEEN'S COLLEGE, OXFORD

CRAVEN FELLOW

WITH

ELEVEN PAGES OF FACSIMILES

BY PHOTOLITHOGRAPHY

Oxford

AT THE CLARENDON PRESS

M DCCC LXXXIX

Price Five Shillings.

TO
ALFRED GOODWIN



Digitized by the Internet Archive
in 2013

<http://archive.org/details/notesabbrevigr00alle>

*Notes on Abbreviations in
Greek Manuscripts*

BY

T. W. ALLEN

QUEEN'S COLLEGE, OXFORD

CRAVEN FELLOW

WITH

ELEVEN PAGES OF FACSIMILES

BY PHOTOLITHOGRAPHY

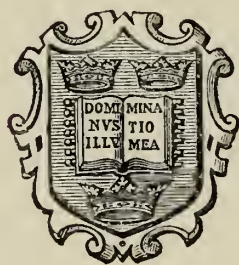
Oxford

AT THE CLARENDON PRESS

M DCCC LXXXIX

[*All rights reserved*]

London
HENRY FROWDE



OXFORD UNIVERSITY PRESS WAREHOUSE
AMEN CORNER, E.C.

PRINTED IN ENGLAND.

NOTES

ON

ABBREVIATIONS IN GREEK MANUSCRIPTS.

A SENTENCE that occurs in the late Charles Graux' review of Lehmann's *Die tachygraphischen Abkürzungen* will explain the purpose of this pamphlet. He says, 'il est absolument indispensable que beaucoup d'observations exactes soient d'abord publiées avant que, à l'exemple du naturaliste qui dresse comparativement un tableau de la faune ou de la flore des divers régions du globe, les paléographes puissent un jour établir l'état des abréviations usitées dans le monde byzantin de siècle en siècle¹.' The science of Greek Palaeography, or at least that portion of it which deals with contractions, has reached a point at which what is necessary for its progress is not the production of all-inclusive handbooks with an immediate practical aim, where conclusions are laid down with all possible definiteness and width, but rather a series of observations of the actual usage of manuscripts, noted with all available accuracy by investigators whose occupations have given them familiarity with the ways of scribes and the possibilities of Greek writing. Such observations indeed must be classified and brought into relations with one another, and hypotheses may be suggested to explain the facts observed; but, as with any other yet undeveloped science, the first and main object must be the collection of fresh evidence. How little has been done towards such collection is known to anyone who has tried to find definite information upon the

¹ Revue Critique, 1880, Notices bibliographiques, etc., p. 168.

origin and history of any single Greek abbreviation. Comparatively little stress is laid on the subject of compendia in Montfaucon's great book, and Bast's well-known *Commentatio Palaeographica*, though stimulating in the highest degree, and the work of one whose palaeographical knowledge can seldom have been surpassed, has a directly practical intention, and moreover hardly recognises the principle of chronological development in the history of a compendium. The recognition and application of such principles to compendia forms the cardinal merit of Lehmann's handbook, a work that with all its industry and system is in point of actual palaeographical expertness far behind the *Commentatio Palaeographica*; both Graux and Vitelli have pointed out, with indisputable truth, the impossibility of deriving general conclusions in palaeography from the compilation of facsimiles. Professor Vitelli however has at length given us the first instalments of a treatise, that, independent of the actual value of its results, is a model in all respects of what such a work should be. The *Museo Italiano*, part I. pp. 9-15, 32; II. 168-173 contains a great number of his observations upon codices in the Laurentian and elsewhere. I shall be more than gratified if this pamphlet, which owes so much to the *Spicilegio Fiorentino*, be thought a not unworthy companion to it.

The bulk of the material presented here is taken from manuscripts in the Bodleian and the British Museum; but a tour in France and Italy in the early part of last year (1888), undertaken under the Craven Trust, has enabled a number of additional examples to be added to those already collected. In arranging the compendia in alphabetical order I have thought to consult the convenience of those looking for examples of any one in particular; at the end are collected some instances of tachygraphy which are grouped under the several manuscripts. I have endeavoured in discussing the various forms to avoid the faults urged against others; where hypotheses are ventured, it is as hypotheses that they are given, and with the

knowledge that a little increase in our information may overset them ; I shall feel no particular shame if such a fate befalls one or two of my ' combinations ' : *caedimus inque vicem praebeamus crura sagittis* is a line that every palaeographer should accept.

The plates have been produced by a photographic process at the University Press, and will, it is hoped, be thought more successful than previous reproductions of drawings.

I have finally the pleasant duty of thanking many librarians, at home and abroad, to whose kindness the possibility of making this collection has been due : to some of them my thanks have been already elsewhere given : here I gladly record my obligation to the Rev. Gio. Bollig at the Vatican, the Rev. Antonio Ceriani at the Ambrosiana, the Abate Anziani at the Laurenziana, Conte Soranzo at Venice, M. Henri Omont at Paris, Bodley's Librarian and Mr. Madan in Oxford, and lastly to the Principal Librarian of the British Museum, for constant encouragement and advice.

A. *Alpha*, it is well known, is properly represented by a horizontal stroke, improperly by a horizontal stroke dotted ; the latter sign properly denotes $\tau\alpha$, and in this sense is often found, though probably not so often as the dotted τ ; this abuse of the two dots, most frequent in combination with τ , still occurs freely with other letters ; lastly, there are many mss. which make use of the notation both in the original and in the illegitimate sense. I give examples of these four cases : (1) the simple horizontal stroke appears to be exclusively used in the scholia of the Arethas-mss.¹ ;

¹ By the 'Arethas-mss.' I mean the manuscripts which are known to have belonged to Arethas, deacon of Patrae, and afterwards archbishop of Caesarea, and which contain large quantities of scholia, apparently in the same hand : I here refer to five—the D'Orville Euclid (888), Clarke Plato (896), Lucian Harleian 5694 (undated), Aristotle Urbinas 35 (undated), Clement Paris grec 451 (914) ; cf. generally the *Observationes Palaeographicae* of E. Maass in the 'Mélanges Graux,' Paris, 1880, p. 749 sq., and Vitelli *Collezione Fiorentina* fasc. iv. pt. 1, where it is shewn that Laur. 60, 3 (Aristides) is in the hand of the Clarke Plato. A certain resemblance also, so far as the scholia are concerned, is to be seen in the mss. Mutin. 126 (Clement Alex.) and Vallicell. F. 10 (Canones eccl.).

of so large an extent of scholia it is impossible to speak certainly, but at least the tachygraphic dots, whether as $\tau\alpha$ or α , are very rare in these mss. : cf. $\sigma\chi\eta\mu\alpha\ \epsilon\upsilon\mu\acute{\alpha}\theta\epsilon\iota\alpha$ from Lucian. The dots may be more certainly said not to appear in the Gospels Bodl. Auct. E. 5. 11 (s. X–XI), though the total amount of abbreviation here is comparatively small : cf. $\beta\alpha\sigma\iota\lambda\epsilon\iota\alpha\nu\ \pi\alpha\rho\alpha$ ¹. (2) mss. in which the dotted stroke occurs and is always $\tau\alpha$, are Grotta Ferrata B. α . iii. (s. XII) $\pi\alpha\nu\tau\alpha\ \tau\acute{\alpha}\ \kappa\alpha\tau\alpha,\ \upsilon\pi\omicron\sigma\tau\acute{\alpha}\sigma\epsilon\omega\varsigma,\ \mu\alpha\tau\alpha\iota\acute{\omicron}\tau\eta\tau\alpha$; Epistles, Bodl. Auct. E. 5. 9. (s. X) $\kappa\alpha\tau\alpha,\ \acute{\alpha}\pi\alpha\gamma\omicron\rho\epsilon\upsilon\omicron\nu\tau\alpha$, with $\beta\acute{\alpha}\sigma\kappa\alpha\nu\omicron\varsigma,\ \acute{\alpha}\nu\tau\iota\kappa\alpha\theta\iota\sigma\tau\alpha\mu\acute{\epsilon}\nu\omega\nu$: Philo, Selden supr. 12 (s. X) $\epsilon\chi\omicron\nu\tau\alpha,\ \tau\alpha\upsilon\tau\alpha$. (3) The most frequent case is that in which a manuscript uses at one and the same time the dotted stroke and the dotted τ to express $\tau\alpha$: such are the Paris Demosthenes² (Σ , grec 2934, s. X) $\sigma\upsilon\mu\pi\epsilon\rho\acute{\alpha}\sigma\mu\alpha\tau\alpha,\ \kappa\alpha\tau\alpha$, but $\pi\rho\omicron\varsigma\ \tau\alpha$; Clement Mutin. 126 (s. X) $\acute{\epsilon}\nu\sigma\tau\acute{\alpha}\sigma\epsilon\iota\varsigma,\ \tau\alpha$; Nonnus Add. mss. 18231 (a. 972) $\tau\acute{\alpha}\ \epsilon\tau\acute{\alpha}\xi\epsilon\nu\ \tau\acute{\alpha}$; Vat. 1982³ (s. X) $\tau\alpha\ \acute{\omicron}\sigma\tau\acute{\alpha}$; Iliad Venetus A $\epsilon\pi\epsilon\iota\tau\alpha$ (schol.) $\theta\upsilon\mu\omicron\lambda\acute{\epsilon}\omicron\nu\tau\alpha$ (text) ; Psalter, Bodl. Auct. T. 4. 19 (s. X) $\epsilon\chi\omicron\nu\tau\alpha,\ \tau\acute{\alpha}$; Aristides Vat. 1298 (s. X–XI)⁴ $\tau\alpha\upsilon\tau\alpha\ \tau\acute{\alpha}\xi\iota\varsigma$; Hermogenes Paris grec 1983 (s. XI–XII)⁵ $\gamma\rho\alpha\mu\mu\alpha\tau\alpha,\ \tau\alpha$; S. Maximus Angelic. T. 1. 8 (s. XI) $\pi\acute{\alpha}\nu\tau\alpha,\ \acute{\omicron}\nu\tau\alpha$; S. Maximus Mutin. 12 (s. XII) $\nu\omicron\eta\mu\alpha\tau\alpha\ \delta\omicron\epsilon\chi\alpha\omicron\nu\tau\alpha,\ \tau\acute{\alpha}\ \pi\rho\alpha\gamma\mu\alpha\tau\alpha$; Palladius Aed. Christ. 70 (a. 1104)⁶ $\pi\epsilon\iota\rho\acute{\alpha}\zeta\epsilon\tau\alpha\iota,\ \mu\epsilon\tau\acute{\alpha}$. Clarke 12 (Greg. Naz. s. X) combines the simple stroke for *alpha* with the dotted τ for $\tau\alpha$, cf. $\kappa\alpha\tau\alpha\ \tau\acute{\alpha}\xi\iota\nu,\ \pi\alpha\rho\alpha\theta\alpha\lambda\alpha\sigma\sigma\iota\omicron\nu$. It is in anyone's power to extend this list. (4) The use of the double dots in combination with other consonants than τ is fairly common ; it is most thoroughly carried out perhaps in the school of S. Nilo ; cf. $\lambda\alpha\omicron\upsilon$ from B. α . xix (a. 965, hand

¹ A rather late instance of the simple stroke is $\pi\omicron\lambda\lambda\acute{\alpha}\kappa\iota\varsigma$ from the ms. Turin B. 1. 22 (a. 1149). Cf. also $\phi\iota\lambda\alpha\gamma\acute{\alpha}\theta\omicron\nu$ from Galen H. 45 Arch. S. Petr. (s. XII–XIII).

² See the facsimile, Pal. Soc. 1886, 2nd series, pt. 3 ; the examples come from the scholia.

³ See the description of this ms. *infra* p. 34.

⁴ I am inclined to put this ms. earlier than M. de Nolhac (*Fulvio Orsini*, p. 171).

⁵ Not X, as Bast.

⁶ Not 1107 as the Catalogue.

of S. Nilo), βάρει σαββάτω, ἀλλὰ, παρὰ, ἁμαρτημάτων, φθαρτὴν from B. α. i (a. 986, hand of Paul), ἀποθάνει σπέρμα from Angel. B. 3. 11¹: the use of the dots for the syllable αρ (already fully rendered by the compendium) in such words as μάρτυς, ἐπιθαρρήσεις from the London Nonnus, is a characteristic of the school; the *ring* in the compendium is turned indifferently up or down. Other mss. where the dots are thus freely combined with consonants are Nonnus Paris suppl. grec 469 A (a. 986) τὰ δέσμα; Vat. 1982 ἐνταυθα, παλαίσαντες βαθος; Vat. 1298 παραδειγματικῶς; and similarly the Hermogenes Par. grec 1983.

ΑΙ. The ordinary sign for the diphthong αἰ hardly needs fresh exemplification²; it is constant in the Arethas-scholia, and, among other tenth-century mss., in Clarke 12 and Mutin. 126. The *tachygraphic* form has not met me outside the Grotta Ferrata school (q. v.)³. A curious form occurs repeatedly in Barocc. 26 (Canons, &c., s. XI ineunt.); cf. ἐξαγοράζονται f. 209 r., πορεύονται f. 346 r., κατέχονται f. 347 r.: it is not unlike the sign which Vitelli (p. 12 n. 8) explains as a prolongation of the tachygraphic symbol; but I think it as likely that it may be merely the sign for ε used by itacism; cf. δῆποτε from the same ms.

ΑΙΣ. Lehmann's remarks upon the comparatively late origin of the double apostrophe for αἰς are just; the Arethas-mss. use no single sign for the syllable, but render it by the sign for αἰ with sigma attached: so ὀρθαῖς, ταῖς from the D'Orv. Euclid. At the same time the sign must have been in existence by the beginning of the

¹ Lehmann well illustrates the use from Nonnus, Add. ms. 18231.

² The separation of the sign from its preceding consonant, which Prof. Vitelli (p. 172 n. 3) seems to think rare, is common in the Arethas-mss.: cf. γεωμέτραις, πλευραί D'Orv. Euclid, φαίνεται Plato, σφαῖρα Lucian; also νύμφαι Mutin. 126 (Clement), κακοδαιμόνως Vallicell. F. 10. The matter seems to be one of indifference.

³ Since this was written I have seen it in Par. grec 990 and 3032 (q. v.).

tenth century, for the scholia to the Paris Plato, grec 1807 offer, as Bast was aware, both modes of rendering the syllable : cf. εὐωχίαις f. 7 r., ταίς f. 99 r. The double apostrophe occurs in the ms. of Gregory Nazianzen's poems, Clarke 12, which I take to be of the earlier half of the tenth century ; cf. αἰσχροίς, αὐταίς : the earliest *dated* ms. in which the sign occurs appears to be the interesting Nonnus, Paris suppl. grec 469 A of A. D. 986, cf. ψυχάις 1. Vat. 1298 (X–XI) again, uses both modes, e. g. ταίς, ψυχάις 2. The sign is uniformly absent from the Grotta Ferrata mss., which, where they give the syllable abbreviated, use the tachygraphic symbol. The *single* apostrophe, of which Vitelli gives some examples, p. 12, occurs in Clarke 12, f. 96 v. βαρείαις καὶ δειναίς ὕβρεσιν, f. 201 v. ταίς παρθένοις, Laud. gr. 39 (s. XI ineunt.), f. 83 v. ταίς ἀμαρτίαις, Selden supr. 12¹, f. 10 r. ὄρμαίς, 146 v. ταίς αὐταίς, 135 v. τοῖς οἰκέταις, f. 129 v. ἐν ταίς τελειοτάταις ; and Prof. Vitelli will forgive me if I add an instance from the beautiful Euclid Laur. 28, 3 (s. XI) δύο δὲ αἱ $\overline{\alpha\beta}$ $\overline{\beta\delta}$ δυοὶ ταίς $\overline{\epsilon\delta}$ $\overline{\delta\beta}$ ἴσαι².

AN. The examples that I give of this commonest of compendiums are meant to illustrate the freedom with which it can be written on the line or attached to a preceding letter ; ἔδωκαν ὅταν from the Paris Plato, gr. 1807, ἐάν, οὐκ ἀντίεσχεν from Vat. 1982, οὔσαν from Selden supr. 12, παντὶ ὅταν from Roe 16 (Epistles, s. X exeunt.), πᾶν οὐκ ἄν, κᾶν from Bodl. Misc. 251 (Epictetus, s. XII)³. Vitelli has noticed (p. 171) that this sign sometimes stands for the syllable αμ. I subjoin one or two instances of its use in this sense and also as representing ατ, viz. λαμβανόμεναι, D'Orv. Euclid, ἀναλαμβάνει, Harl. Lucian, ὑπολαμβάνω Vat.

¹ Philo, saec. xi Coxe, but the ms. may as probably belong to the century before, it is in bold minuscule above the line. F. 96 r., a late hand has expanded the symbol in question into -αις.

² Another example is ἐν ταῖς αὐτῶν ἐπαρχίαις from Vallicell. F. 47 (s. X).

³ The same ms., a collation of part of which by Mr. Bywater will be found in Hermes, 1871, p. 362 sqq.

1298 (Aristid.), ἀναγκαῖον D'Orv. Euclid, ἀνάγκης Clarke Plato.

ΑΠΟ. A correct account is given in Lehmann of this preposition, though his examples may be greatly multiplied. The Arethas-mss., as is their general wont with prepositions¹, reject the symbol altogether, and abbreviate by superimposing π; the same is the rule with the Paris Plato. The Grotta Ferrata mss., including the London Nonnus, vary between this mode of abbreviation and a very decided type of the compendium, that may be taken as the purest form of it existing in minuscule: cf. ἀπό, from Nonnus, ἀπό τῆς, ἀπολογισάμενος, from Isidore (B. α. i), ἀποθάνει, ἀπό θαλάσσης from Angel. B. 3. 11. Precisely the same form is offered by Vat. 1982, ἀπό τῶν, ἀπολείψεσθαι. Forms more or less departing from this type are of very common occurrence: I give from the Paris Demosthenes 2934 (Σ) f. 235 r., ἀποβήσεται, 229 r. ἀπό τῆς, 217 r. ἀπολογίας; from the Bologna Euclid, Archiginnasio A. 1. 18, 19 (s. XI), ἀπό, ἀποτομή; from Bodl. Misc. 251 ἀποδείξαι². Forms a step further removed are ἀπεδείξεν, ἀποδυεσθαι from Clarke 12, ἀπο τοῦ ἀπο τῆς from Laur. 28, 3, ἀπο from Barocc. 235 (Caten. in Psalm. s. X–XI), ἀπογόνοι from Laud. gr. 1 (Psalter, s. XI)³; in the last example the scribe was unaware of the proper force of the symbol, cf. the similar case quoted ap. Lehmann, p. 84. For the same sign in the sense of ὑπό, v. s. v.

ΑΡ. Since Prof. Vitelli has thought it worth while to collect evidence for the use of this compendium, some further instances may not be out of place. The form however cannot be called rare: the article in Lehmann is quite inadequate. The Arethas-mss. use the symbol very seldom; of those in England I have found it only in the Clarke Plato, f. 370 v. ἐπιχάρμου; of the Paris Clement and Urbinas

¹ So with ἐπί, πρός and ὑπό.

² So also ἀποβλέπων Par. 3032.

³ Cf. also ἀπό στέρησις [sic] Par. 990, ἀπό Vat. 1316 (s. XIII).

35 I would not be so positive¹. The Grotta Ferrata school on the other hand have the sign *passim*, with and without the superfluous dots, (v. under A), with the ring above or below, the stroke horizontal or slanting, in the middle or at the end of words: cf. βάρβαρον, παρέλλησιν from Nonnus, φάρμακον φθαρτὴν from Isidore, ἡμαρτηκόσι φρέαρ from Angel. B. 3. 11, ἀφθαρτὸν from G. F. B. α. iii (s. XII); the simple form occurs also in Vat. 1982, αμαρτίαν, αὐταρκως, that with the dots in Mutin. 12 (s. XII) σαρκός, καθαρθέντες. Other examples are ὄναρ, ἐξ ἄργους from Mutin. 126 (s. X), ἀνάξαρχος, ἡπαρ from Clarke 12, παρθένου from Bodl. Auct. E. 5. 11 (s. X), ἁμαρτολούς καρπὸν from Laud. gr. 1 (s. XI–XII), ὁ μάρκος from Vallicell. E. 40 (Caten. s. XI), αναμαρτήτους from Epictetus Bodl. Misc. 251 (s. XII), δέλεαρ, ὑπάρχειν from Neap. II. A a. 22 (s. XI–XII).

APA. Vitelli's remark that this compendium, though possibly rare on the whole, is frequent in mss. of a particular class, is illustrated by the examples that I have here to give. In the D'Orville Euclid it is naturally frequent, without accent as a rule in the text, whose scribe Stephanus very largely omits both accents and breathings; with accent and breathing in the scholia: cf. nos. 1, 2; it is found also in the scholia of the other Arethas-mss., e.g. no. 3 from the Clarke Plato, no. 4 from Urbinas 35: among mathematical mss. it occurs in the mathematical scholia to the Anthology (Paris suppl. grec 384, f. 639, &c., cf. no. 5), in Euclid Laur. 28, 3 (no. 6), both round and angular forms in Euclid Bologn. Archigin. A. 1. 18 (nos. 7, 8). The form is frequent in Bodl. Misc. 251, and in the sense of ἀρα, cf. no. 9. As a part of παρά, both shapes are found in the Paris Plato, grec 1807, e.g. ff. 7 r., 20 r. (nos. 10, 11). Vat. 191 (varia math., s. XV) has the sign occasionally, nos. 12, 13. I have not seen it in mss. of the Grotta Ferrata school².

¹ Ἀμαρτίαν Vallicell. F. 10.

² I may notice here that the Alpha with crossed downstroke which Belger, Hermes XVI. p. 278 (Frag. math. Bobiense f. 114. l. 30) imagines to be ἀρα is

ΑΣ. I give a few examples of this compendium used otherwise than at the end of words: ἀπαρουσιάστωσ Clarke Plato, χρήσασθαι Clarke 12, χαράσσοντες Nonnus Add. 18231, ἀσθενούντες ἀσθενείας εφασκεν Vat. 1982, διδάσκει ἡναγκασμένος Bodl. Auct. T. 4. 19, γαστριμαργους Roe 16 (s. X).

ΑΥ. Of this diphthong I can only produce instances from a few mss. more or less tachygraphical in character: viz. Vat. 1982 ἐνταυθα (bis) ταῦτα and *passim*, Grott. Ferr. B. α. iii. (s. XII) ταύτης, τοιαύτη ἑαυτὸν, and very often. The sign occurs most abundantly in the London Nonnus, but apparently only in the strictly tachygraphical portion ¹.

ΑΥΤΟΣ. A ligature for this pronoun worth recording occurs in some of the Grotta Ferrata mss.; it consists of the α and υ run together with the case-ending added: cf. αὐτὸς αὐτοῖς αὐτήν ἑαυτῶν ὡσαύτως from Gr. Ferr. B. α. i. and Angel. B. 3. 11. A similar combination of α and υ occurs in αὐτοῦ from Aed. Christ. 70 (a. 1104), and the ligature is probably common.

ΓΑΡ. I give a selection of more noticeable forms assumed by γάρ. Nos. 1 and 2 are from the D'Orville Euclid and Harleian Lucian respectively, and this uncial form is usual in the Arethas-scholia: no. 3 is from the text of the D'Orv. Euclid. Forms with the uncial Gamma are 4 from Genuens. 7² (a. 1057), 5 from Barocc. 196 (a. 1042), 6 from Mutin. 230 (a. 1051), 7 from Aed. Christ. 70 (a. 1104), 8 from Bodl. Auct. T. 4. 19 (s. X): of minuscule forms, 9 is from Laur. 32, 15 (Iliad D s. X), 10 from Vat. 1982 (s. XI), 11 from Grott. Ferr. B. α. i (a. 986), 12 from Angel. B. 3. 11, 13 from the Paris Demosthenes Σ (from the text), 14, 15 from Vat. 1298 (Aristides, s. X–XI), 16 from Vallicell. E. 40 (s. XI), 17 from Bodl. Roe 16, 18 from Bodl. Auct. E. 5. 9

in reality ἔσται. I hope to call attention elsewhere to the mis-deciphering of this ms.

¹ Examples from Par. grec 990 will be found in the account of that ms., p. 37.

² Biblioteca della Congregazione di san Carlo.

(s. X), 19, 20 from Laud. 89 (s. XI), 21 from Roe 1 (s. XI–XII)¹, 22 from Turin B. 1. 22 (a. 1149). The abbreviation for $\gamma\rho\alpha$, which seems one of the peculiarities of the Grotta Ferrata school, may be illustrated by $\gamma\rho\acute{\alpha}\phi\epsilon\upsilon\iota\nu$ from Isidore (a. 986), $\theta\epsilon\acute{\iota}\alpha\ \gamma\rho\alpha\phi\eta$ from Angel. B. 3. 11. It may be doubted whether sufficiently precise evidence as yet exists to prove Lehmann's conclusions (p. 92), as to the origin and relation of the two modes of representing the syllables $\alpha\rho$ and $\epsilon\rho$.

ΓINETAI . The simple contraction for $\gamma\acute{\iota}\nu\epsilon\tau\alpha\iota$ acquires some interest from the varying forms under which it appears. It is most common perhaps in mathematical mss. Cf. 1, 2 from the D'Orville Euclid (text), 3 from mathematical scholia to the Paris Anthology, 4 from the Paris Demosthenes Σ , 5, 6, 7 from Laur. 5, 3 (Clem. Alex. s. X).

ΔE . The ordinary usage for the particle $\delta\acute{\epsilon}$ probably needs no illustration; I may however add one or two examples to that given by Prof. Vitelli (p. 169) of the syllable $\delta\epsilon$ at the beginning or in the middle of a word; viz. $\epsilon\acute{\iota}\delta\acute{\epsilon}\alpha\varsigma$ from the British Museum Nonnus, $\delta\acute{\epsilon}\chi\epsilon\tau\alpha\iota\ \delta\epsilon\delta\omega\kappa\acute{\omega}\varsigma\ \delta\acute{\epsilon}\kappa\alpha$ from Vat. 1982. Rather unusual ligatures are nos. 1, 2 from Roe 16.

E. Lehmann's article on ϵ is thorough and practically sufficient. The waved line which in minuscule represents both $\alpha\iota$ and ϵ is universal in the verbal endings $-\mu\epsilon\nu\omicron\varsigma$ and $-\mu\epsilon\theta\alpha$, and in other combinations of the syllable $\mu\epsilon$ (e.g. $\mu\acute{\epsilon}\nu\epsilon\iota$ from the London Nonnus). But the abbreviation of ϵ attached to other consonants is comparatively rare, and I can only cite examples from Laud. 37 (s. XII): $\tau\epsilon\lambda\epsilon\acute{\iota}\nu\ \tau\epsilon\lambda\epsilon\tau\ \acute{\nu}\ \kappa\epsilon\phi\alpha\lambda\eta\ \sigma\epsilon\mu\epsilon\lambda\eta\nu$. The spelling of the ms. is itacistic (cf. $\sigma\eta\mu\alpha\acute{\iota}\nu\omega\nu\tau\epsilon\varsigma$ s. $\epsilon\varsigma$), and this particular usage may possibly be so explained².

¹ This form perhaps is analogous to those examples of $\epsilon\rho$ given from Laur. 72, 5 by Vitelli, p. 15.

² The same sign in Laud. 37 represents η ; v. $\kappa\epsilon\phi\alpha\lambda\eta$ above, $\sigma\iota\omega\pi\hat{\eta}\ \delta\eta\mu\eta\tau\rho\alpha\varsigma$. Cf. also $\acute{\epsilon}\nu\epsilon\rho\gamma\acute{\eta}\sigma\alpha\sigma\alpha\nu\ \tau\iota\mu\omega\rho\eta\theta\acute{\eta}\sigma\omicron\nu\tau\alpha\iota$ from a ms. of New College, Oxford (No. 59, s. xii), $\tau\acute{\eta}\nu$ from Vat. 587 (Cyril, s. XII) $\delta'\ \acute{\eta}\mu\epsilon\acute{\iota}\beta\epsilon\tau\omicron$ Laur. 32, 15 (man. 2, s. XII–XIII). It may be doubted whether this mode of abbreviation is found

EIN, HN, IN. The proposition that the three syllables $\mu\nu$, $\epsilon\nu$, and $\iota\nu$ had originally a common sign, and that at a later period they were differentiated by the doubling of the sign, for $\epsilon\nu$, the adding of diacritic points, for $\iota\nu$, the original sign being appropriated to $\mu\nu$, is correctly stated by Lehmann, p. 55. At what time and under what circumstances these steps took place cannot at present be determined; the statistics here presented may advance the question somewhat¹. Manuscripts in which $\mu\nu$, $\epsilon\nu$, $\iota\nu$ are represented by the single sign are: the five Arethas-mss., Euclid (a. 888), Plato (896), Lucian, Aristotle Urbīn. 35, Clement (914); Clarke 12, Bodl. Auct. T. 4. 19, Laur. 28, 3, Angelica B. 1. 7 (Caten. in Matth. s. X), Vat. 1298, Vallicell. C. 41 (Caten. in Iob. s. X), Grott. Ferr. B. α. iii. (s. XII). The following two differentiate $\epsilon\nu$, but have a common sign for $\mu\nu$ and $\iota\nu$: Angel. B. 1. 5 (Caten. in Evang. s. XI); Angel. C. 4. 14 (Liban. epp., s. X–XI); the following four have a common sign for $\mu\nu$ and $\iota\nu$, while $\epsilon\nu$ is *apparently* always written in full: Iliad Ven. A, Bodl. Canon. 110 (s. X ineunt.), Grott. Ferr. B. α. i (986), ib. B. α. iv (992)². A late example of the use of the original sign for $\epsilon\nu$ is Bodl. Auct. E. 2. 4 (1106), φέρειν. On the other side, the earliest dated ms. that I know of where the duplicated sign is used for $\epsilon\nu$ is the Nonnus Paris suppl. grec 469 A (a. 986)³; cf. ἀποστέζειν πίνειν; another ms., undated but

before the twelfth century. A very remarkable usage occurs on a page of tenth-century minuscule bound up with the ms. Vallicell. F. 10. It is illustrated in the words *περι αμαρτηματων και κληρικων*, and consists in the ordinary tachygraphical sign for η . I do not know an exact parallel.

¹ Prof. Vitelli thinks (p. 10, n. 3) that Lehmann's observations upon the mode of forming the compendium for $\epsilon\nu$ at different periods—whether the strokes were drawn up or drawn down—need modification. I have not paid attention to the point. I may here say once and for all, that Lehmann's statements of, and *a fortiori* inferences from, the usage of Nonnus, Brit. Mus. Add. mss. 18231, whether in regard of tachygraphy or the ordinary system of abbreviation, are entirely erroneous. A correct account of the ms. is given on p. 33 sq.

² The two Grotta Ferrata mss., where they abbreviate $\epsilon\nu$, use the proper tachygraphical symbol; for $\iota\nu$ they use both modes of abbreviation.

³ The abbreviations of this ms. are strictly limited in number, but those that are used recur constantly. I did not find instances of $\iota\nu$, $\epsilon\iota\varsigma$, $\iota\varsigma$.

certainly not late in the tenth century, Bodl. Auct. E. 5. 9, has the later usage throughout for the syllables ειν, ιν, εις; cf. διαφέρειν, ἔλθωσιν, ὑμεῖς. Later dated examples are Mutin. 230¹ (a. 1051), ῥηθεῖσιν; Genuens. 7 (1057), κοσμεῖν ἐστίν; Genuens. 2 (1075), ἀτενίζειν; Aed. Christ. 70 (1104), σπεύδειν. From these instances it is plain that no more particular conclusion can be drawn than that the old system lasted long, and the new system began early; but *perhaps* it may be said (1) that the abbreviation of ιν was, relatively to ην and ειν, rare (a similar remark is made by Lehmann, p. 67), and (2) that the differentiation of ειν from ην began earlier than that of ιν from ην.

ΕΙΣ, ΗΣ, ΙΣ. Vitelli's observation (p. 169, n. 2) that the double sigma in the sense of εις was in use in the first half of the tenth century is more than confirmed by the Clarke Plato, where in the scholia that come from the hand of Arethas the word ἐνστάσεις occurs with the final syllable thus represented; in the rest of the ms. however the single sigma seems always to be found. Manuscripts in which σ stands for all three syllables are the Clarke Plato, Clarke 12, and Clement Mutin. 126: it stands for ης and ις in the D'Orv. Euclid, Harl. Lucian, Vat. 1982, Iliad Ven. A, and doubtless in many other tenth-century mss.; the last four mss. appear to write the syllable εις in full², and I think Lehmann's remark (p. 57) well-founded, that the abbreviation is, in early mss., *comparatively* rare; neither εις nor ις is abbreviated (as it would seem) in Nonnus Par. suppl. grec 469 A (986). The Grotta Ferrata school use as a rule the proper tachygraphic sign for εις, but the single sigma occurs occasionally, e. g. ἐκθρέψει from Nonnus; the syllable ις in these mss. is usually written in full. Early examples of the ordinary double sigma are φωκεις Demosth. Par. Σ, ἡμεῖς Euclid Laur. 28, 3 (s. X–XI); two dated instances are δυνάμεις from Mutin. 230 (a. 1051), πανηγύρεις from Bodl. Auct. T. ii. 2 (a. 1066). Lastly, the

¹ My notes do not give an instance from this ms. of ειν abbreviated.

² I now find an example in Vat. 1982 of σ for εις: f. 218 v. θησαυρίζεις σεαυτῷ.

syllable is often enough abbreviated in the middle of a word ; cf. *κεκλεισμένοι κινεῖσθαι* from Clarke 12. Prof. Vitelli (12 n. 1, 172 n. 2) challenges the explanation of a ligature for *εις*, of which he gives examples ; I have found the form in Clarke 12, *εις τὰ*, Laud. gr. 1, *εις τὸν*, *εις τοὺς*, *εις τὴν*, Mutin. 12 (s. XII) *μῖσος εις τὸν*, Bodl. Misc. 251 (s. XII) *εις τὸν* (bis), D'Orv. x. 1. 1, 2 (Etym. Magn. s. XIV) *εις τὰ*, and it is evidently the sign found by Ludwich in the Hamburg ms. of *Odyssey-scholia* (*Aristarchs Hom. Textkritik*, ii. 698)¹. In one instance, Clarke 12 f. 189 r. *εἰσὶν* (no. 1), the ligature occurs not in combination with the article, and with the sigma expressed ; and this I think gives some ground for explaining the form itself as the ordinary ligature for *ει* plus a cross-stroke to denote abbreviation ; so the scribe who used it for *εἰσὶν* would have been conscious that the sigma was strictly speaking unrepresented in the compendium. To turn to *ις*, the later sign with the diacritic dots occurs in Mutin. 230 (a. 1051) *συνέλευσις*, Bodl. Auct. T. ii. 2 (a. 1066) *κρίσις*, Genuens. 2. (a. 1075) *ἀνάγνωσις* ; but it already appears in a far earlier ms., Bodl. Auct. E. 5. 9, certainly of the tenth century, e. g. *τις*, *μόρφωσις*. The syllable, as observed above, is in the Grotta Ferrata mss. mostly written in full, and where contracted represented by the strict tachygraphic symbol. An itacistic usage of the double " for *ις*, of the sort noticed by Vitelli, p. 11 n. 1, occurs in Laud. gr. 1 *λογισμοί*, though that this is an exception is shown by *βαπτίσματος* from the same ms. The sign occurs freely in the middle of words ; cf. *κράτιστε* from Clarke 12, *καθώπλιστο* Iliad Ven. A (scholia). The ordinary sign for *ης* hardly needs confirmation. The itacistic " occurs in Laud. gr. 1 already adduced ; cf. *ἐπὶ γῆς*, *ἀπὸ στής*, and a marginal gloss where both usages occur together, *καλυπτούσης φραττούσης*². The

¹ Cf. also *εις τους αιωνας*, Vat. 1982, *εις τ[ους αἰῶνας]* Vat. 2 (s. XI), *εις τοῦτο* Vat. 1456 (s. XI), *εις τὴν* Grott. Ferr. Z. a. xxv. (schol. min. in Iliad. s. XI). The form is in fact fairly common.

² Cf. Martin, *Les scolies du manuscrit d'Aristophane à Ravenne*, p. xvii.

use of the compendium in the middle of a word is illustrated by $\theta\nu\eta\sigma\kappa\upsilon\sigma\iota$ from Clarke 12.

EINAI. To the various forms of the sign for εἶναι given by Lehmann and Vitelli I add the following: nos. 1, 2 from Plato Paris 1807, which are apparently a near approach to the original form¹, 3 a similar form from Vat. 1298 (Aristides, X–XI); the shape the sign assumes in the Arethas-mss. is shewn by 4 from Euclid, 5 from Plato, 6, 7 from Lucian; Demosthenes Σ and the Anthol. Pal. (Paris portion) offer 8 and 9, without accent or breathing, Vat. 1982 no. 10; here and in 11 from the London Nonnus, occurs the stroke for abbreviation. The horizontal type occurs in Clarke 12, no. 12 *passim*, Laur. 28, 3 no. 13, Grott. Ferr. B. α. iv. (a. 992) no. 14, Angelica T. 1. 8 (s. XI) no. 15, Vat. 1298 no. 16, Hermog. Paris grec 1983 (s. XI–XII) no. 17, Bodl. Misc. 251 no. 18 *passim*.

EN. The form which this syllable takes in the Arethas-mss. is illustrated by μέντοι, ἔοικεν, εἰώθαμεν from the Harl. Lucian, ἐν from Plato f. 395 v. For other tenth-century mss., cf. βουλευθέντα Clarke 12, πενθέρας Auct. E. 5. 11, ἐν ἔνθεν Nonnus Add. 18231; cf. also ἐν ἐντολὰς from Barocc. 235 (s. XII), and the odd ligature οὐδὲν Mutin. 230 (a. 1051). It will be observed that these forms are either right angles or slight departures therefrom. The variation in which the downstroke is prolonged occurs in Vat. 1982 ἐν, ἔλεγεν (Vitelli, p. 9 n. 2). The strictly tachygraphical sign is by no means rare, and is found in mss. that are not otherwise particularly tachygraphic: cf. e. g. σώζομεν Auct. E. 5. 11 (s. X–XI) σωθήειμεν [sic], μέν, ὄθεν Roe 16; further μέν (bis) ἐν (bis) ὑπομνήσομεν Nonnus Add. 18231, ὁμιλοῦμεν Grott. Ferr. B. α. iv. (992), μέν λέγομεν κατεχόμενοι Vat. 1982².

¹ In explaining the genesis of the original form it is difficult to accept either Lehmann's view that the two dots come by false analogy from the sign for ἐστί, or that of Graux (Rev. Crit. 1878, Notices Bibliographiques, etc. p. 66) by which they are due to the desire for symmetry.

² And εἶχεν, Angel. B. 3. 11, second hand.

ΕΡ. Of both the methods of representing ερ there are abundant examples in older minuscule. The more common perhaps is that consisting of a stroke, inclined to the left, but above or below the line, with a ring attached; this is to be found in the scholia of the D'Orv. Euclid (ὄπερ 1, ἥπερ), the Clarke Plato (ὄπερ 2), Plato Paris 1807 (ὕπερ bis), Laur. 28, 3 (ὄπερ 3), Clarke 12 (ὕπερβολήν), Mutin. 126 (ὕπερ 3, ὄπερ 4), Vat. 1298 (ὕπερ 4), Mutin. 193, Lucian s. XI–XII. (εἴπερ), Mutin. 12, s. XII. (ὥπερ, ἄπερ), and throughout in the Grotta Ferrata school, e. g. συνεργοί Nonnus, σπέρμα G. F. B. α. i., δερματίνους Angel. B. 3. 11, ὑπερ φύσιν G. F. B. α. iv., ὄπερ ὥπερ ib. B. α. iii. The second mode, the simple cross-stroke, of whatever origin, may be seen in the text of the D'Orv. Euclid (ἄπερ), often in the scholia to the Clarke Plato (ὥπερ ὄπερ ὑπερ), in those to Demosthenes Σ (ὥπερ 2, ὄπερ 2), and it occurred in the now lost 'codex Vallae' of Archimedes¹. I have suggested under γαρ a parallel to the form quoted by Vitelli, p. 15.

ΕΣ. The normal use of the sign for ες (e. g. as in νικῶντες from the Harl. Lucian) is well established; it is less common to find it either in the middle of a word or upon the line. Of the former case γενέσθαι ἀρέσκειν from Clarke 12, ἔξεστιν from Auct. E. 5. 11 are examples; for the latter one may compare μάξαντες Plato Par. 1807,λέοντες Mutin. 126, δεσπότης Angel. B. 3. 11, συνείραντες G. F. B. α. i., ἐνίζοντες ib. B. α. iv., ἐστιν ib. B. α. iii., φθάσαντες ἀπολείψεσθαι Vat. 1982. The itacism by which the double apostrophe, ordinary representative of αῖς, is employed for ες, of which Vitelli gives some instances, p. 12, is more widely spread than is commonly supposed, and occurs in mss. of a good age and often otherwise carefully written; such are the well-known Laur. D of the Iliad (32, 15) μένοντες, Angel. C. 4. 14 (Liban. epp. s. X–XI) δοκοῦντες ἀναλώσαντες, Bodl.

¹ As we are told by the writer of the Angelica C. 2. 6, who gives a table of the abbreviations used in his archetype: I take thence περ and the explanation. Cf. Heiberg, *Philologus* 42, p. 421 sq., and my own notes on the *Biblioteca Angelica*, forthcoming in the *Classical Review*.

Auct. T. 4. 19 (s. X exeunt.) δεδοκότες *passim*, Laud. gr. 1 δαίμονες πάντες, Laud. gr. 37 (s. XII) σημαίνωντες καλοῦντες, Laud. gr. 89 (s. XI) ἅπαντες, Barocc. 235 (s. XI) ἰδόντες, Bibl. Corsini 41 G. 16 (Evang. s. XII) βλέποντες δαιμονῶντες, Vallicell. E. 29 (s. X) ἐκτετηκότες.

ΕΣΤΑΙ. One of the most interesting of Greek compendia, and that may almost be said to have been discovered since the appearance of Lehmann's handbook, is the sign that represents ἔσται—almost technical in geometrical mss., but occurring with a certain frequency in mss. of other subjects. The sign was originally found by Bast in the ms. S. Germ. 249 (Comm. Pal., p. 810), and this is the only instance that Lehmann has before him; Prof. Vitelli (p. 168) has found it in the Laur. Aeschylus, the Aristotle Paris grec 1853, and the Euclid Laur. 28. 3. The oldest instance that I am able to give of it is the Fragmentum mathematicum Bobiense, f. 114 v. 30 in Belger's copy, Hermes XVI, where Belger misreads it ἄρα¹. Next it is used in most of the Arethas-mss.; the Bologna Euclid Archiginnasio A. 1. 18² has it, and doubtless most other mathematical mss. before the twelfth century; lastly, it is one of the many compendia used by the scribe of the Bodleian Epictetus Misc. 251 (s. XII). Hence we get the following chain: 1 Frag. Bobiense, 2-4 D'Orv. Euclid (text), 5 ib. (scholia), 6 Plato, 7 Lucian, 8 Urbin. Aristotle, 9-12 forms from Laur. 28, 3 rather different to the one given by Vitelli, 13-16 from the Bologna Euclid, 17-20 from the Bodl. Epictetus. I enclose in brackets Prof. Vitelli's no. 53 for greater completeness. On comparing these forms with those given by Bast and Vitelli, it appears (1) that the dots signifying τ are absent and present indifferently in mss. of the same age; (2) that, with this qualification, the original form is best represented by the type given by the Bobbio fragment and the text

¹ I have to defer the proof of this statement, but its truth will be evident to anyone who tries to read the passage grammatically.

² Heiberg's b, saec. xi.

of the D'Orville Euclid, and that the letters contained in the sign are therefore (τ) + α + the tachygraphic ι either attached to or crossing the downstroke of α¹. (3) The late forms 17–20 are direct descendants of no. 1; the transition from one type to the other will be plain if we imagine such a form as Vitelli's no. 53 written with the curve open instead of closed. His no. 39 I should be inclined to explain as due to carelessness on the part of the scribe, but in any case it does not disturb the general result².

1. The curious expedient of representing, in late manuscripts, iota by two dots on a level with each other, is well known, but not so universal that it may not be worth while illustrating from four dated mss.; viz. κομματικόν from Coll. Nov. 258 (a. 1298 written by Demetrius Triclinius) where the usage is frequent, μνήσθητι from a note in Roe 1 that bears the date 1417, γεωργίω from Mutinensis 118 (a. 14?8)³, and κοντελέοντι from Vat. Ottobon. 58 (a. 1538).

INA. A simple contraction for ἰνα, consisting of an iota with a mark of abbreviation beneath it, occurs in three mss. of my observation: Angel. T. 1. 8 (s. XI), Vallicell. E. 40 (s. XI), and the Bodleian Epictetus, Misc. 251 (s. XII). The form is practically the same in all three⁴.

K. The article in Lehmann shows well how the waved line, descendant of the original tachygraphic κ, represents final

¹ Lehmann's analysis (p. 104) comes near to this, though in the single form given by Bast it was impossible to perceive the direct presence of the α. (Since the article on ἔσται was written, I have found instances of both the plain and the dotted form in the Aristotle Ven. 201 of A.D. 955. In either case the form was *open*, and the example is important as an indication of the age at which this tendency manifested itself.)

² To Lehmann's account of ἐστί little exception is to be taken; I doubt however his statement (p. 102) that the horizontal line over ./ in Vat. 1809 denotes ν—surely it is the general sign of omission. Curious representations of the word are no. 1 from G. F. B. a. iii, no. 2 from Laud. gr. 1 (s. XII).

³ On the date I must refer to my notes on the Estense in the *Classical Review* for February, 1889.

⁴ It is to be seen also in Vallicell. E. 63 (s. XII), a ms. in a hand not unlike that of the Bodleian Epictetus, and is probably common.

syllables beginning with κ, chiefly but not exclusively terminations in -κός, etc. The usage is very constant in mss. that I have seen: cf. ἱατρική, ἀριθμητική, ἐπιθυμητικῶ Plato Clarke 39, ἱαμβικός Clarke 12, πολιτικόν Auct. E. 5. 9, θεωρητικοῦ Nonnus Add. 18231. Nonnus however usually exhibits the case-termination, e.g. ἐκκλησιαστικῆς, ἀπελαστικὴν, οὐκ ἐπιδεικτικῶς; so also μερικὴν Auct. E. 5. 9¹. Instances of terminations other than -κός are γάλακτος Clarke Plato, μικρόν Auct. E. 5. 9, εἶρηκεν, ἐγίνωσκον, κακά Laud. gr. 1, μακρόν Laur. 32. 15 (Iliad D), ἑβδομηκοντάκις Demosth. Paris Σ².

KATA. Neither Lehmann nor Prof. Vitelli (p. 15) has given much illustration of the modes of representing κατά. One may distinguish (1) partial abbreviation, where (a) the κ is tachygraphically rendered; so κατά 1 καταχρώσας often in the London Nonnus, κατά 2 κατεκάει (*sic*) Clarke 12, κατά 3 and 4 Laur. 28, 3, κατά 5 Vat. 1298³, or (b) the abbreviation is confined to the other letters. A few examples will suffice to illustrate this; cf. κατά 9 καταδιώκειν Bodl. Auct. E. 5. 9, κατά 10 Demosthenes Σ, κατά 11, 12 Vat. 1298, κατατὴν Angel. T. 1. 8 (s. XI), where the pair of dots appear to do double duty. (2) Complete abbreviation, the proper tachygraphical sign; e.g. καταδυομένη Clarke 12, καταφθείρει Vat. 1982. The sign is universal in the more tachygraphical parts of Nonnus, but does not occur in as much of the ms. as is written in minuscule⁴.

Λ. Lehmann's account of the origin and usage of the contraction⁵ for syllables beginning with Lambda is deservedly commended by Graux, Rev. Crit. 1880, Notices Bibliographiques, etc., p. 165. His examples however admit

¹ Rather individual forms of the κ with case-termination are ἀποστολικῆς, ἐγκληματικῶ, ἐπισκόπων from Vallicell. F. 47 (s. X).

² Prof. Vitelli (p. 172) considers the waved line in the sense of the *syllabie* και a rarity. I have found it in at least four mss.; Roe 16 δικαιοσύνη, Auct. E. 5. 11 καισαρεία, Laud gr. 39 καιρόν, καίσαρος, νικαία.

³ κατά 6 Vat. 587 (s. XII), κατά 7 and 8 Vat. 1316 (s. XIII).

⁴ Cf. also καταλαμβάνω Par. 990. How uncertain the use of the symbol is appears from κατέλαβεν from the same ms.

⁵ I. e. a superimposed Lambda that afterwards assumes various shapes.

largely of multiplication. The use occurs, though rarely, in the Arethas-ms., e.g. σκαληνόν, ἰσοσκελές Plato, πόλις Lucian; other tenth-century examples are παῦλος, πόλις, σύμβολον Clarke 12, κεφάλαιον ἄμπελον Demosth. Σ, σχολήν, βασίλειον Nonnus Paris suppl. grec 469 A, παραβολήν Iliad Ven. A; in all of these instances it will be noticed how the right stroke of the Λ is prolonged. Freer examples from the same century are ἐπιστολήν Auct. E. 5. 9 (but ὁ ἀπόστολος ib.) τέλος, παῦλος, βασιλεύς Auct. E. 5. 11. The Grotta Ferrata school use the contraction not unfrequently: so κύκλος, ἐπιστολῆς, κωνσταντινοπόλεως Nonnus, ἀπόστολοι G. F. B. α. i. Lastly, a few eleventh-century mss. may be cited: Laud. gr. 39, Selden supr. 11, Laud. gr. 1 (the eccentric form τοῦ διαβόλου). I add a somewhat more interesting example, θεολόγου, from Phot. Bibl. Ven. 450 (s. X)¹.

ΜΕΝ. The Bodleian ms. of the poems of Gregory Nazianzen, Clarke 12 saec. X², so often already cited, has not unfrequently the tachygraphical symbol for μεν, whether the particle or a syllable in a word; so μέν f. 157 v., μενοῦν ib. *et saep.*, ἐθηράσαμεν 176 v.³ For other tachygraphical usages of this ms. v. under κατὰ and τε⁴.

ΟΜΟΥ. One of the most curious signs that still remain for the palaeographer to analyse is that occurring in some manuscripts for ὁμοῦ. Lehmann s. v. has collected the quotations of it by earlier enquirers and Gitlbauer (Vat. 1809). Vitelli does not notice it. The form occurs in mss. by no means tachygraphic, and even where the percentage

¹ It may be worth noticing that the simple contraction for λόγος and its compounds is freely used in the Arethas-mss. I give as types ὁ λόγος, λόγον, λόγους, ἄλογον, εὐλογος, καινόλογος, from the Harl. Lucian. Further cf. λόγος 2, λόγον 2, ἀλόγως from Grott. Ferr. B. α. i.

² Both Graux, *Revue Critique* 1878, p. 124, and Vitelli, l. c. p. 161, n. 2 have demanded information upon the stichometry of this ms. It may be well therefore to say here briefly, that the number of στίχοι is in this case precisely the number of verses in the poems.

³ See also *infra* under Par. grec 990, p. 38 (for the syllable με).

⁴ A contraction for μεταξύ which I cannot satisfactorily explain occurs in the Clarke Plato f. 377 v., Harl. Lucian f. 73 v.; cf. the instance in the table. Otherwise (Frag. Bobiense, D'Orv. Euclid) μεταξύ is represented by $\overline{\text{M}}$.

of 'ordinary' abbreviation is not great; it is most common perhaps in mathematical mss., but it occurs in others also where it is necessary to add up a total. It consists of two parallel strokes crossed by a single one, and may either have the rough breathing and circumflex or be without either; and in late mss. the accent and breathing are run together into a single waved line (so Lehmann rightly analyses it). In Vat. 1809 the single stroke is vertical, and the two crossing it horizontal¹, but later the form is that given in the table: viz. no. 1 Bologn. Archigin. A. 1. 18 (Euclid, s. XI), 2 Mutin. 71 (Synaxarium, s. XI-XII), 3 Vat. 191 (circ. 1404, var. mathemat.), 4 Mutin. 55 (Synesius, etc. s. XV). A curious form, distortion or misapprehension, is no. 5 from Laud. gr. 39 (s. XI ineunt.) τέλος κανόνων τῶν ἐν νικαία· ὁμοῦ κ².

ON. Two additions may be made to the otherwise very full article of Lehmann's upon ον. (1) The illegitimate use of the *double* stroke in the sense of the single (Lehm. p. 73) occurs as early as Laud. gr. 1³, e.g. φυλάττοντας, μόνον, ἄρχοντες. (2) The single stroke is not so seldom met with in the middle of words as Lehmann's examples suggest; it is common in the Arethas-mss.: cf. ἀγαγόντες from Euclid, παίζοντες Plato, ἔκοντες Lucian⁴.

ΟΣ. To the examples given by Prof. Vitelli (p. 11, n. 4) of the tachygraphical sign for oc in ordinary mss. I add some instances from Barocc. 26 (s. XI ineunt.), a ms. that offers some other peculiarities of contraction⁵; viz. ἀπόστολος f. 249 r., ἐνεργούντος 338 v., πρὸς 198 v., ὁ αὐτὸς τοίνυν λόγος 182 r.⁶

¹ An identical form appears to be presented in the Frag. Bobiense, f. 114 v. 26, ap. Belger Hermes XVI, but it must be admitted that certainty as to its meaning is difficult. Other instances of the compendium are no. 6 from Par. 990, no. 7 from Vat. 904 (s. XIII), no. 8 from Vat. 1319 (s. XV).

² ὁμοίως, from Laur. 28, 3 is to be compared with the sign given by Vitelli for ὁμοιον (p. 172, n. 1, plate no. 73).

³ 'Saec. XI ineuntis,' Coxe; but it may be as much as a century later.

⁴ More remarkable examples are ὄντως Par. 990, λέγοντες Par. 3032; cf. also φιλιππον, τὸν from the latter ms.

⁵ V. s. αι, ους.

⁶ Another instance is πλῆθος from Par. 3032. V. also s. τοc.

Another mode of expressing σ , little noticed hitherto, is by an uncial sigma, cf. from Laud. gr. 39 ἕκαστος, πρὸς, περὶ τοῦ παρατεθέντος and σχισματικῶν; further λόγος καταφατικός Nonnus add. 18231, πρὸς ὕψος Grott. Ferr. B. α. iv. (a. 992), ἴκτερος Bodl. Auct. T. 1. 2 (s. XI ineunt.). These examples may go some way toward resolving Lehmann's doubt (p. 75) about the meaning of the sigma in the two words that he quotes from Sabas¹.

ΟΥΝ. Illustration of this common compendium, whether as the particle or the syllable, is hardly needful. I take almost at random καλοῦνται, ὅπως οὖν from the D'Orv. Euclid, οὖν 1 from the Clarke Plato, οὖν 2 from Par. grec suppl. 469 A, and the unusual ligature βεβαιοῦντος, οὖν from Barocc. 21 (s. XII). Of the *genesis* of the symbol I do not remember to have met with any account; Lehmann (p. 76) leaves the question open. If however we compare this ordinary sign for οὖν with the tachygraphic symbol for $\epsilon\nu$ (v. supra), it is plain that they have one part in common, namely the crooked stroke that concludes either compendium: this stroke therefore, in either case, may be taken to represent ν , and while the open curve in $\epsilon\nu$ will stand for ϵ , that which is closed in οὖν may similarly be inferred to represent σ ².

ΟΥΣ. Of the ordinary form of the compendium for this syllable illustration is needless; somewhat remarkable forms however are ἄλλους Par. suppl. grec 469 A (Nonnus a. 986), τοὺς τόπους Vallicell. C. 41 (s. X); a combination frequent in Grott. Ferr. B. α. iv. (a. 992) is perhaps worth recording, πνευματικούς. The double waved line (Vitelli pp. 9, n. 2, 169) occurs in Roe 16 (s. X) τούτους τοὺς πιστεύοντας, Laud. gr. 39 τοὺς χρόνους, Theophrastus Urbinas 61 (s. X) τοῖς

¹ I give a few examples of the sign for $\sigma\tau\iota$; no. 1, from Clarke 12 f. 180 v., resembles the primitive form as given in Vat. 1809, no. 2, from the Paris Greek Anthology, is an instance of the omission of the dots; cf. also nos. 3, 4 from Par. 3032, no. 5 from Vallicell. C. 61 (s. XV).

² Compare οὖν as represented in Vat. 1809, e.g. συνεστῶτος, f. 195 r. B. v. 22.

τόπους¹; the single waved line (the proper tachygraphic sign) in Barocc. 26, ἐλευθερουμένους, αὐτοὺς χριστιανούς².

ΟΥΤΟΣ, etc. To Vitelli's examples (p. 11, n. 3) of οὔτος, οὕτως, etc., I may add a few others. The abbreviation is almost a feature of the Arethas-mss., cf. 1 οὕτω Euclid (text), 2 οὕτως ib. (scholia), 3, 4, 5 οὔτος, οὔτοι, οὕτως Lucian; further 6 οὕτως Vat. 1982, 7 οὕτως Vat. 1298, 8 οὕτως Mutin. 193 (Lucian, s. XI–XII).

ΠΑΡΑ. The word παρά may be compendiously expressed (1) by π + the sign for ἄρα, (2) π with the topstroke crossed by a slanting line. (1) The former is by far the more common, and may be thought not to need exemplification; I give however some instances from mss. that are for any reason noticeable: παρά 1, 2 from Plato Paris 1807, παράκλησιν παραφυλακή Clarke 12, παραλιπών Demosth. Σ, παρά 3 Nonnus Par. suppl. grec A 469, παρά 4 Iliad Ven. A, παρά τόν Auct. E. 5. 9, παρά 5 παραδοξῶν Laur. 28, 3, παράσχονται from so tachygraphic a ms. as Vat. 1982 (2) The other method in its nature, as Lehmann rightly observes, tachygraphic, is frequent in the Arethas-scholia; cf. παρά 6 παραβληθῆ D'Orv. Euclid, παραμυθησάμενος Plato, παρά 7 Lucian, παρά τοῖς Urbin. 35³. At the same time the Plato-scholia use the contrary system as well, e. g. παραδείγματα, παρὰ τόν. The cross-stroke is the usual method followed by the Grotta Ferrata school; in addition to Vat. 1809, cf. παραδεδομένον from Nonnus, παραδραμών Isidore, παράβασιν Angel. B. 3. 11. The twelfth-century ms. however, G. F. B. α. iii, has the more usual system: so παρὰ 10. (3) A certain number of mss. offer instances of both forms at once. Beside the Clarke Plato quoted above, cf. παρακαλῶ παρὰ 11 from Bodl. Auct. T. 4. 19, παρὰ μετρῶν παραβολῆς Mutin. 12. (4) I have

¹ Par. 3032 λόγους, Angel. B. 3. 11 (man. sec.) αὐτούς, Turin B. vii. 30 (s. X–XI) ἄλλους.

² The form of the sign for ου, in which it is not round but angular, occurs in Bodl. Auct. T. 4. 19 (s. X exeunt.) ὀλισθαίνουσιν, τοῦ λαοῦ, Par. 990 συνελθούσης; see further under *Tachygraphy*.

³ Cf. also παρὰ 8 Vallicell. F. 10 (s. X), παρα 9 Vallicell. F. 47 (s. X).

noticed some variations in the more usual form which cannot be explained as coalescence of accent (Lehmann p. 91). The difference consists in a hook at the top of the upstroke, cf. παρασκευήν, παραδειγματικῶς, παρά 12 from Vat. 1298; it is curious that these forms, if the semi-circle were wanting, would be almost exactly like those given by Prof. Vitelli (p. 14) from Laur. 32, 9 and Laur. 59, 9 (*plate* nos. 7, 24, 25). An exaggeration of this variation appears to be the form παρά 13 which I take from Angel. C. 4. 15 (Liturgiae, a. 1165). Lastly, the singular form παρά 14 Angel. T. 1. 8 (s. XI) must apparently be explained as an individual error of the scribe's, who had (v. s. T) some acquaintance with tachygraphy.

ΠΡΟΣ. I have not seen the sign for πρὸς in the Arethas-scholia, and it will probably be found not to occur; its place is taken by πρ̇. It is constant however in the *text* of the D'Orville Euclid (Stephanus) — a large and characteristic form: cf. nos. 1-4. A few instances of its occurrence elsewhere are πρόσωπον, πρὸς τὰ Demosth. Σ, πρὸς 5 Anth. Pal. (scholia to the Paris portion) προστάται πρὸς 6 Vat. 1298, προσκλώμενος, πρὸς 7, 8 Epictetus Bodl. misc. 251. A degraded form is πρὸς 9 from Barocc. 235 (Caten. in Psalm. s. XI)¹.

Τ. The representation of τ by two dots placed over or across the following vowel or syllable is one of the most characteristic and consistently carried out practices of Greek tachygraphy, and is found in mss. otherwise of the ordinary type of writing far more often than is usually supposed. It is in fact often the only trace of tachygraphy that a ms. will show. The scanty account in Lehmann has been greatly added to by Prof. Vitelli (τα, p. 11, 170, τας 11, 32,

¹ It is extraordinary that a doubt can exist as to the origin of this sign. The slightest reflection upon the forms given above leads us back to the type that is in use in Vat. 1809, and of which not a bad example will be found under the xiith century ms., Grotta Ferrata, B. a. iii, p. 34. Each of the four letters is represented. The speculations in Lehmann (p. 87) must be read to be believed.

τε ib., 173, τοῖς 11, του ib., τῷ 32, τῶν 170, τως 11), and I am able to offer here some further collection of instances. The first example of each syllable, by way of type, is taken from the British Museum Nonnus; cases where the example comes from the strictly tachygraphic part of that ms. are enclosed in brackets. The notation appears entirely absent from the Arethas-scholia.

ΤΑΙ¹: μέμνηται Nonn., φοβοῦνται Par. 990, ἔσται Par. 3032.

ΤΑΙς: 1 from Nonn., 2 Laur. 28, 3.

ΤΑΝ: ὅτ'αν 1 Nonn., ὅτ'αν 2 Par. 3032.

ΤΑΣ: πάντας Nonn., ἔχοντας Demosth. Σ, τὰς Vat. 1982, ἐαυτάς Angel. T. 1. 8, ἀπεμπολοῦντας Vallicell. E. 40, πολεμοῦντας Barocc. 138 (s. XII), τὰς Bodl. Misc. 251, καταφοβοῦντας Par. 990, τοπάζοντας Turin B. 1. 22 (a. 1149).

ΤΑΥ: ταύταις Nonn., ἐνταῦθα Vat. 1982, ταύτης Grott. Ferr. B. α. iii, ταῦτα Par. 990.

ΤΕ: ὥστε Nonn., τότε ποτε Clarke 12, οὔτε (1, 2) ὥστε Vat. 1298, οὔτε 3 Bologn. Archigin. A. 1. 18, ὥστε 3 Thucydid. Brit. Mus. Add. 11,727 (s. XI), ποτε 2, οὔτε 4, ἐνιότε ὥστε 4 Hermog. Par. grec 1983, οὔτε 5, τυπουτε Bodl. Auct. E. 5. 9, ὥστε 5, Vat. 191 (circ. 1404), τέκνοις, ἡμέτεροις Par. 990, ποτε τοτε ὥστε μήτε Neap. II. A a. 22.

ΤΕς: φωτισθέντες Nonn.,λέοντες Mutin. 126 (Clement), ἀναβάντες Clarke 12, ὄντες ἔχοντες Laur. 28, 3, ἐνίζοντες Grott. Ferr. B. α. iv (992), πάντες Iliad Ven. A, φθάσαντες παλαῖσαντες Vat. 1982, πάντες ἀπολαύσοντες Angel. T. 1. 8, καιροσκοποῦντες Mutin. 12 (s. XII), περιλαβόντες Hermog. Par. grec 1983, μοσχοποιήσαντες Barocc. 138, δράσαντες Angel. B. 3. 11 (man. 2)².

¹ For τα v. s. Α.

² I have not concerned myself, here or under ες, with the illegitimate use of the two dots in the sense of ες. It is worth recording however that the use occurs *passim* in the Ravenna Aristophanes, and is most remarkable in a ms. of

ΤΗΝ: 1 Nonn., 2 Grott. Ferr. B. α. iv, 3 Laud. gr. 1 *passim*, 4 Vallicell. D. 43.

ΤΙ: παρέστι Vat. 1982.

ΤΙΝ: ἐστίν Grott. Ferr. B. α. iii.

ΤΟ: ἐκτάτο Nonn., πρωτοκάθεδροι Par. 990, τούτο Par. 3032.

ΤΟΙΣ: τούτοις Nonn., τοῖς Vat. 1982, τοῖς δικαιοῖς Par. 990.

ΤΟΝ: αὐτόν Nonn., ἑαυτόν ἑφεαυτόν Vat. 1982, τόν, φθαρτον Par. 990.

ΤΟΣ: αὐτός Nonn., σώματος ουτος Vat. 1982, δια παντος Par. 990.

ΤΟΥ: αὐτοῦ Nonn., τοῦ χριστου Par. 990, του φιλοσοφου Arch. S. Petr. H. 45 (Galen, s. XII–XIII).

ΤΟΥΣ: τοὺς Nonn., αὐτοὺς τοὺς Vat. 1982.

ΤΩ: οὕτω Nonn., αὐτῷ ἑαυτῷ οὕτω Vat. 1982, ἀμυήτω Par. 990.

ΤΩΝ: πάντων τῶν νέων Vat. 1982, τῶν ὄντων Angel. T. 1. 8, τῶν Mutin. 12, πάντων D'Orvill. X. 1. 1, 2 (Etym. magn. s. XIV), φοιτώντων Par. 990.

ΤΩΣ: οὕτως Nonn., εἰκότως οὕτως Vat. 1982, πάντως ἀδιαστάτως Angel. T. 1. 8, λεληθότως Bodl. misc. 251, οὕτως Par. 990.

ΥΠΕΡ. The tachygraphic abbreviation for ὑπέρ cannot be said to occur frequently outside of the Grotta Ferrata school; I have not found it in the Arethas-scholia. Cf. however ὑπέρ τῶν ὑπέρ φωκέων from Demosth. Σ, ὑπέρ 1 from Grott. Ferr. B. α. xix (a. 965), ὑπέρ 2 ὑπέρ σοῦ Nonnus, ὑπέρ λόγον Gr. Ferr. B. α. i, ὑπέρ 3 ὑπερβάς Angel. B. 3. 11. For the partial-abbreviation, which is frequent, v. s. ΕΡ.

that age and style. Cf. *διεκπερῶντες* (text), *τεχνήεντες* (scholia, man. pr.). This coincidence between the text and the first hand of the scholia may serve as another proof of the identity of the hands, in addition to those already brought together by M. Albert Martin in his admirable study upon this ms.

ΥΠΟ. A tachygraphical contraction for ὑπό occurs more frequently than for ὑπερ but without being itself common. There appear to be two distinct symbols in use: (1) one, already known from tachygraphy, and frequent in the Grotta Ferrata mss.: so ὑπό 1 G. F. B. α. xix, ὑπό 2 ὑπό τῆς ὑπονοίας Nonnus, ὑποζύγιον Angel. B. 3. 11, ὑπό 3 Par. 990¹. (2) Another sign, quite unlike the former, already quoted by Bast (p. 794) from S. Germ. 249, is identical in shape with the symbol for ἀπό (q. v.) so largely used by the Grotta Ferrata school, and only distinguished from it by the breathing, or in fact, where the breathing is ambiguous or incorrect, by the context. Certain instances are ὑποδεικνύοντα, ὑπό κακοῦ, ὑπό 4 from the Bodl. Epictetus, Misc. 251; the same form is probably given by Vat. 1982 in υποδεθεῖσα (sine spir.), and further by a late mathematical ms., Vat. 191 circ. 1404, ὑπο 5 (*sic*). The fact of one compendium standing for both ἀπό and ὑπό at once suggests that the letters actually denoted by the sign must be those common to both words, viz. π + ο; and though I do not hold this conjecture proved, especially as regards the ο, it may at all events strengthen the conclusion arrived at by Lehmann (p. 84) from consideration of ἀπό alone.

ΩΝ. Under this head I have to notice the tachygraphic sign, rightly described by Lehmann at the beginning of his article as a waved line; it is in fact not unlike an open omega inverted. In this form it is used by an ancient hand

¹ The argumentation between Gitlbauer and Lehmann (Lehm. p. 88) upon the origin and relation of the signs for ὑπερ and ὑπό, does not perhaps admit of proof or disproof; but it may be allowable to suggest another hypothesis that appears at least as probable. Lehmann justly doubts Gitlbauer's half-revolution of the sign for ὑπερ as a preliminary to explaining it; but his own analysis of it, and especially his theory of the original identity of the two signs, appear to me no less arbitrary. A simple comparison of the common letters in ὑπερ, ὑπό, with the common strokes in the two compendia suggests that (1) the left-hand stroke in ὑπερ is ρ, while the left-hand stroke in ὑπό is ο (the tachygraphic ο is a line bent into two curves); (2) that the right-hand cross-stroke in either case is a mere mark of abbreviation, to erect the letters ρ and ο into substantive symbols for ὑπερ and ὑπό. For an analogy I may refer to my own analysis of the strange sign for εἰς (p. 12).

among the Plato Arethas-scholia, e.g. τῶν ὄντων, ἀρχῶν, πλάτων (as a rule the Arethas-mss. use the ordinary form, and that as often within the word as at the end). Cf. also τῶν νέων Vat. 1982, τῶν θεωρημάτων, τῶν ἀγίων Mutin. 12¹. Early dated examples of the coalescence of the circumflex accent with the ordinary sign (Vitelli p. 10, n. 2) are τῶν Genuens. 2 (a. 1075), ψυχῶν Angel. C. 4. 15 (a. 1165).

ΩΡ. A few instances of the compendium for this syllable, to be added to those given by Vitelli (pp. 15, 32, 171) are : ῥήτωρ Clarke Plato, γεωργικῶν Harl. Lucian (both in the scholia), ἔκτωρ Iliad Laur. 32, 15 (text), μητροπάτωρ Laur. 5, 3 (not cited, I think, by Prof. Vitelli), ἀντιλήπτωρ Laud. gr. 1, ὕδωρ Mutin. 193 (Lucian, s. XI-XII, text), ὁ ῥήτωρ Bodl. Misc. 251, παντοκράτωρ Vallicell. E. 29 (s. X), γεώργιος Neap. II. A a. 22.

ΩΣ. The examples that I give of ὡς are meant to illustrate its form and its position with regard to the line. (1) The slight variation by which the last curve of the sign takes a turn upwards, is, as Bast notices, a peculiarity of the strongly-marked writing of the Plato Paris grec 1807 (cf. ὡς 1, οὕτως, ἀπτικῶς), but it is found also in the text of the D'Orville Euclid f. 120 v. αὐτως, and it existed in the 'codex Vallae' of Archimedes from which Angel. C. 2. 6 was copied; cf. the passage in the plate from f. 222 v. explaining ως and πως². (2) The syllable is found written on the line most constantly in mss. more or less connected with tachygraphy, e.g. οὕτως Nonnus, ὥστε Angel. B. 3. 11, φύσεως Grott. Ferr. B. α. iv, ὥσπερ ib. B. α. iii, οὕτως καρέως Vat. 1982, but not unfrequently elsewhere, so ὥστε ὥσπερ often in the Arethas-scholia, ὡς 2 Laur. 28, 3³.

¹ A few more examples are τῶν 1 Vallicell. F. 10, τῶν 2 Vat. 1456 (s. XI), πλάτων Par. 3032, πάντων Par. 990, τῶν αἰρετικῶν Ven. 450 (Phot. Bibl. s. X).

² I make bold to explain in this way the sign given by Prof. Vitelli, plate II. no. 40, p. 172, n. 2: it is ως + ερ, i.e. ὥσπερ, which, as Prof. Vitelli says, is demanded by the context. Another instance of this form of ως is ὄφεως Vat. 2 (s. XI).

³ The beginner may with profit contemplate the fourth example of ὡς in

ΩΣΠΕΡ. I do not remember to have seen or read of a *single* sign for ὥσπερ; the separate abbreviation of either syllable is of course frequent enough. A ligature, consisting of the tachygraphical signs for both syllables interlaced, is given by the ms. Etym. Magn. D'Orville x. 1. 1, 2 s. XIV, of which a facsimile is prefixed to Gaisford's edition of the E. M.; cf. no. 1 from f. 289 v., no. 2 from 288 r.; both are at the end of the line. The context of the first is, ἰστέον δὲ ὅτι ὥσπερ λέγεται κροῦμα καὶ κρούσμα, οὕτω λέγεται χρίμα καὶ χρίσμα. The formation of the symbol is clear if we compare ὥσπερ, ὅπερ from the tachygraphic part of Nonnus¹.

TACHYGRAPHY. It has been often pointed out that in Greek minuscule and late uncial writing there are two systems of abbreviation in use at once: one, of rare occurrence and of obviously tachygraphic origin, the other, far commoner, and though also ultimately tachygraphic in source, so familiar as to be known by contrast as the 'ordinary' system. Facts as to the coincidences and divergencies of the two systems are well given by Lehmann in his introductory chapters, and a masterly sketch of the subject, with illustrations, will be found in Graux' review of Gardthausen, *Journal des Savants* 1881, p. 312 sq. The extent to which the 'tachygraphic' system entered into the writing of ordinary books is one of the questions in palaeography which most stand in need of additional evidence. That the system was far more widely spread and more generally used in books than was commonly supposed, there

Lehmann, § 47. He will not get light from Gardthausen, p. 258, nor even from Diels' explanation of the Fragmentum Bobiense, *Hermes* 1877, p. 421 sq.

¹ I have in this tract hardly touched the large and interesting province of mathematical signs. I may however here mention one that is quoted by Hultsch *ap.* Gardthausen from Vat. 211, but that has not hitherto found an explanation. It represents χωρίον, and is found with or without case-ending. Examples 1 and 2 are χωρίον, 3 χωρίους, 4 χωρία. All these come from Euclid Laur. 28, 3. The usage occurs also in the D'Orv. Euclid, but at the moment of writing I am without examples. It consists of χ and ρ rendered tachygraphically, upon the same system as that employed in Vat. 1809; cf. any page of Gitlbauer's facsimile. The second cross-stroke is doubtless a mark of abbreviation.

can be no doubt; but whether any principle governed its employment, and whether any place, persons or style of author can be connected with it, must for the present remain an open question. One of the few facts known for certain is that the later tachygraphical system was practised by monks of the order of S. Basil, and in especial by the Basilian school of Grotta Ferrata near Rome. Of the eleven manuscripts whose usage I proceed to summarise, seven were certainly written at Grotta Ferrata, one may have been, and another, though written elsewhere, was the work of a Basilian¹.

- (1) An account of the history of the school of S. Nilo at Grotta Ferrata, the monastery and village between Frascati and Marino on the lower slopes of the Alban Hills, is to be looked for in the *Prolegomena* that are to complete the catalogue not long since published by the learned librarian of the Abbey, P. Antonio Rocchi². In the mean time it may be convenient to say that San Nilo, the founder of the monastery at the close of the tenth century, established therewith a school and style of writing. The school may be said to continue, at least in the person of the Bibliothecarius, to the present day; the distinctive characteristics of the handwriting of S. Nilo³ may be traced, in mss. written by his disciples, for more than a generation. Manuscripts with which I am acquainted that exhibit this type of writing are, beside the three books in the hand of S. Nilo himself (B. α. xix, xx, xxi), two mss. still in the monastery, B. α. i and B. α. iv, one in the Biblioteca Angelica at Rome, B. 3. 11, the London Nonnus⁴, and

¹ For examples of tachygraphy published since the appearance of Lehmann's book cf. Vitelli, *Spicilegio Fiorentino*, Desrousseaux, *Mélanges de l'École Française de Rome*, 1886, p. 544 sq., Gitlbauer, *Philologische Streifzüge*, 1886, p. 387 sq.

² *Codices Cryptenses, Tusculani*, 1883.

³ Cf. the extract from the *Vita Nili Rom.* 1624, p. 28, quoted by Rocchi under B. α. xix: *literarum forma utens densa et minuta*. Facsimiles of the three Grotta Ferrata mss., and the one from the Angelica are shortly to be published by the Palaeographical Society.

⁴ When I was at Rome the celebrated Vat. 1809 was temporarily inacces-

the fragment Vallicell. D. 43. The type loses its chief characteristics in the twelfth century, but still exists as a particularly neat and close minuscule; authentic examples are B. α. iii, and the latter part of Angelica B. 3. 11. I have imagined resemblances in Mutinensis 12 and Bodl. Rawl. 156. It has always been well known that S. Nilo's disciples were tachygraphers, and the two great examples of their production in this direction, Vat. 1809 and Brit. Mus. add. 18,231 have been more or less carefully examined; but for our knowledge of the codices that still remain in the Abbey we still depend practically upon Montfaucon and Piacentini. A stay of five days at Grotta Ferrata in May of last year (1888) gave me opportunity to inspect the library with this purpose. I have to thank Padre Rocchi's benevolence not only for access to the manuscripts that he knows so well, but for the arrangements that he was good enough to undertake for my entertainment in the village. May he accept an imperfect acknowledgment of one of the pleasantest weeks that have fallen to the writer's experience.

The three mss. in the hand of S. Nilo (a. 965) are unabbreviated. On the last four pages however of B. α. xix occur a considerable number of compendia; most noticeable tachygraphically are ὑπέρ (ὑπέρ τοῦ λαοῦ), ὑπό, and ις in ἡ ἀπλή γινώσις. The last sign is one of the rarest of those in use by the school, and will probably hardly exist elsewhere than in the purely tachygraphical parts of Vat. 1809 and Nonnus and, in ordinary writing, in Vallicell. D. 43. The other mss. appear to give the syllable always in full. Vat. 1982 gives the common sign, v. s. ΕΙΣ (ἰάσις).

(2) The ms. of the British Museum, add. mss. 18,231,

sible; but to judge from Gitlbauer's facsimile of the *tachygraphical* part, the style of S. Nilo is to be recognised there also: it is of course well known, independently of the hand, that the ms. came from Grotta Ferrata. Lastly, from the description given by Graux (*Arch. des Missions*, etc. 3^e sér. V. p. 123) of the ms. O. 74 of the Biblioteca Nacional at Madrid it would seem that it also belonged to the 'Scuola di san Nilo.'

containing works by Gregory Nazianzen with the comment of Nonnus, has for some years past been known to offer extensive examples of tachygraphy; I need not refer to the passages in the handbooks where it is noticed, nor to the facsimiles of pages in the various collections. It may be said to exhibit three styles of writing: (*a*) minuscule: the text, only rarely abbreviated, and various introductions, indices, etc. (ff. 4 v., 12, 13, 14 v., 15 r., 318 r.—330 v.) which on the contrary are very closely contracted; (*b*) scholia in large semi-uncial, which, beginning almost without contractions, gradually increase the percentage of signs till they almost reach pure tachygraphy; (*c*) purely tachygraphical marginal remarks, glosses and corrections. In this article I deal with tachygraphy only in so far as it is introduced into ordinary writing, and therefore it is only the first of these three classes that I here notice. It is to be hoped indeed that the whole tachygraphical contents of the ms. may some day be made public, but I offer here nothing beyond a collection of the tachygraphical signs that are found in the minuscule part of it. The ms. was written, it is well known, in 972, but the writer has not given his name. Lehmann (p. 53) has rightly concluded, from a comparison of facsimiles, that it belongs to the Grotta Ferrata school, and the resemblance is obvious to anyone who has been both at London and Grotta Ferrata; but he is certainly wrong in identifying the scribe with Paul who wrote the Isidore. The editors of the Palaeographical Society, who in their forthcoming fasciculus publish several facsimiles of Grotta Ferrata mss., decide that the hand of Nonnus is the same as that of the Angelica Theodoretus, to be noticed below; and there is a clear difference of writing between these mss. and the Isidore. A graver fault, however, with regard to this ms. has been committed by Lehmann, than the wrong identification of its hand. Relying upon the evidence of the facsimile of a single page, he has in various places of his book made general statements of the usage of the entire

ms.—which are wrong; and based upon them theories as to the history of Tachygraphy, which are necessarily even further from the truth. It is sufficient to warn anyone who uses the book that the statements in pp. 21, 22, 53, 54, 57, 67, as to the representations in the Nonnus of the syllables ειν, ιν, εις, are incorrect. The matter is the most serious blot in a meritorious handbook, and a conspicuous example of the results of ‘Palaeography from Facsimiles.’

The manuscript then, in this part of it, exhibits specifically tachygraphical signs for the following syllables: αι, αικ, ἀπο, αρ, ειν, εν, ἐπι, ιν, ου, παρα, τα, την, -τ' ἐστι, τως, ὑπερ, ὑπο. Cf. the words φαιδρότατε, εὐχαῖς, ἀπὸ, ὑπάρχειν, συμπράττειν, κατήνεγκεν, ἐπικαθίσας, ἔτεσιν, οὐδεῖς, ἰουδαῖος, τήν τε, τοῦτ' ἐστί, οὕτως, ὑπέρ, ὑπονοίαις. Here the frequent use of αι, αικ, ειν, ιν and especially ου, is noticeable; the last compendium occurs in ‘ordinary writing,’ only in the mss. Vallicell. D. 43 and Par. 990. The curiously consistent contraction for τοῦτ' ἐστί also deserves notice; in the semi-uncial scholia the words are still farther abbreviated. Otherwise the use of the symbol for Ταυ is singularly limited. The other signs are more or less characteristic of the school. For instances of τὰ v. *ante* s. A; the usage of the manuscript for αρ, εἶναι, ἐρ, κατά, παρά has also been previously illustrated. Lehmann's statement that ις in this ms. is always written in full, is true to the extent that the tachygraphical sign does not occur in this part of the ms.; in the scholia and the pure tachygraphic glosses it is common, and in the minuscule part itself the ordinary sign sometimes represents the syllable: v. *ante* s. ΕΙς. The sign for ις, as I have already noticed, is very rare in all the Grotta Ferrata school.

- (3) The Biblioteca Angelica at Rome possesses one ms. of the school of Grotta Ferrata, Theodoretus B. 3. 11. The book consists of two parts, of which the first is of the tenth century, the second of the eleventh or twelfth. A description of it will be found in my notes on the Angelica

shortly to appear in the *Classical Review*, and in the current fasciculus of the Palaeographical Society, where a facsimile of a page from the first part is given. This earlier hand is the same, Mr. Maunde Thompson tells me, as that of the London Nonnus of A.D. 972; it is very considerably abbreviated. The second hand, though later, is not without traces of tachygraphy, v. *ante* s. EN. The tachygraphical signs used by the first hand are as follows: αι (σημαίνει), αικ (τιμωρίαικ), ἀπο (*ante*), αρ (*id.*), ειν (τυχεῖν), εις (ἡμεῖς, οὐδεῖς), ἐπι (ἐπικαλέσωνται), ερ (*ante*), ιν (ὑακίνθινον), παρὰ (*ante*), ὑπερ (*id.*), ὑπο (*id.*).

(4) The well-known Isidore, B. α. i, written in 986 by Paul, second Abbot of Grotta Ferrata, offers the following distinctively tachygraphical signs: αι (σκολιαί), αικ (διαθήκαις) αρ, and combinations of α with other letters (*ante*), ἀπό (*ante*), ει (δαμάζει)¹, ειν (ὑφαίνειν), ἐπι (ἐπιθυμίαικ), ερ (*ante*), ιν (ἄσκησιν), παρὰ (*ante*), ὑπέρ (ὑπέρ λόγου). It is curious that neither here nor in Angel. B. 3. 11 is there any employment of the double dots for τ which are so frequent in most mss. that are at all tachygraphic. The scribe uses the ordinary system of abbreviation freely, and the total proportion of contracted words is large.

(5) It was my good fortune to have brought to me in the Biblioteca Vallicelliana at Rome, one day in February of this year, a Latin ms. numbered D. 43, of the Dialogues of S. Gregorius Magnus, saec. XI, at the end of which were bound up two leaves of a Greek ms. in the writing of Grotta Ferrata. A photograph of one leaf was sent to Pre. Rocchi at the Monastery, and he was afterwards good enough to examine the ms. itself. His conclusion as to the hand is, I am happy to say, a confirmation of what suggested itself to me at first sight: that the writer is Paul, monk of Grotta Ferrata, the scribe of the Isidore B. α. i.

¹ An unusual way of rendering ει. The diacritic point is appended to the sign for αι. In Vat. 1809, as one sees in Gitlbauer's facsimile, it is *iota* and the diacritic point that together give ει.

The subject-matter is harder to determine; the leaves contain, as a librarian's note on the first of them and at the beginning of the ms. says, 'fragmentum indicis codicis antiqui,' but the work to which the index was prefixed Pre. Rocchi was unable to discover; it was probably, in his opinion, a commentary on part of the New Testament, possibly S. Paul's Epistles.

The interest however of the fragment is palaeographical. The leaves, numbered 88 and 89, measure $10\frac{3}{4} \times 8$ in.; are in double columns with 44 lines in each; they together form one sheet of vellum, and, the text being continuous, must therefore have been the middle leaves of a quire; the flesh-side of the vellum is outward, the rulings are on the hair-side. The writing is above the line. The abbreviations are extraordinarily numerous; both in this respect and for the rarity of some of the symbols used, no other piece of 'ordinary writing' at present known to have come from Grotta Ferrata can compare with these two pages. The following list gives the tachygraphical signs that I have found: α, αι, αικ, ανα, απο, αρ, εις, εκ, επι, ερ, εστι, εισι, ειναι, ιν, ις, ου, παρα, τοῦ] ἔστι, την, ὑπερ, υπο: cf. the words καθ' ὅτι, φαίνεται, νεφέλαις, ἀναγεννῶνται, αποδημεῖ, ἀπαρχή, σαφεῖς, ἐκδημεῖ ἐκτός, ἐπιφαινόμενου, μετερχομένους, ἐστι, εἰσί, εἶναι, αἰτοῦσιν, θέμις, οὐκ, νοούμενος, παρα, τοῦτεστί, παραβάτην, ὑπερ, ὑποζύγιον. Of these signs four are of great rarity, ἀνα, ἐκ, ις, ου: of ἀνα I do not know another instance in ordinary bookhand; Nonnus has it, but in the tachygraphical portion: ἐκ occurs also in Vat. 1982 and Par. grec 990: ις, as I have already observed, is found elsewhere only in G. F. B. 1. xix, and ου only in Nonnus and Par. grec 990. It is instructive to compare the amount of abbreviation used by the same scribe in these two mss., G. F. B. α. 1 and Vallicell. D. 43.

- (6) The ms. of S. Maximus, Grott. Ferr. B. α. iv written in 992 by Neophytus, is far less widely contracted than the Isidore, while on the other hand it offers some examples of

signs which that ms. does not use. Cf. αἱ (ὅτι ναί), ἐκ (ὥς ἐκ τοῦ), ἐν (ὁμιλοῦμεν), ἰν (θέλησιν), τεσ (*ante*), τὴν (*id.*): a small piece of more continuous tachygraphy occurs on the margin of f. 390; ρήτων μυστηρίων.

(7) Again ms. B. α. iii (s. XII according to Rocchi), in a good calligraphic hand, has, with an abundance of compendia of the ordinary sort (cf. s. A, AP, EIN, EP, etc.), the peculiarity of the tachygraphic sign for αὐ, unknown elsewhere in the ordinary writing of the school, but very frequent here, whether as αὐ or ταυ: cf. s. AY and the examples ταύτης, ταυτὴν, ἐαυτόν, αὐτήν: I take a longer piece of tachygraphy from f. 67 v. θέσθαι δὲ μόνω τῷ πρὸς ἀλήθειαν [?] βλέποντι.

(8) Montfaucon Pal. Graec. p. 283 gives a facsimile of a manuscript in the house of the Basilian order at Rome. The entire collection once belonging to this order is well known to be now in the Vatican, where it is incorporated under the 'Vaticani graeci,' beginning at 1962. The particular ms. intended by Montfaucon is, as I have found out, Vat. 1982 or Basil. 21. Its description is as follows: membr. 8 × 5½ in., ff. 223; ff. 1-189 are in ordinary script, 36 lines on a page, in a rather small good eleventh-century hand below the line, only slightly contracted; ff. 190 r., 190 v., 191 r., being blank leaves of the same book, are filled with contemporary semi-tachygraphic writing, containing on 190 r. and v. various medical receipts, on 190 v. 191 r. an extract from Chrysostom (inc. τὰ γὰρ πλείστα τῶν ἁμαρτημάτων), 191 v. is blank. Ff. 192-223 are apparently a different book, in a much smaller but contemporary hand, much abbreviated, 29 lines to the page, containing S. Basil's λόγοι on various portions of scripture, the first being that on Psalm VII which Montfaucon facsimiled; it is defective at the end. The book may have *come* from Grotta Ferrata, but was certainly not written there, for on a modern fly-leaf at the beginning is the inscription *Ex libris MS. Monasterii*

*S. Helie Carbonensis*¹ *Nullius Dioecesis, Anglonen. Ordinis S. Basilii Magni*, and the hand bears not the slightest resemblance to that of the famous Isidore of Grotta Ferrata; it is in fact hard to see what can have suggested their identity to Montfaucon².

The ms. appears to use the following tachygraphical signs: αῖς (παροιμίαῖς), αὐ (ἐνταῦθα), ἀπο (ἀπὸ τῶν), δε (*ante*), ἐκ (no. 1), ἐν (*ante*), ἐπι (ἐπιθυμία), κα (both with a dot, as κατεχόμενοι, and without, as καλλιφωνία), καρ (καρδία), κατα (καταφθείρει), μα (σπέρμα), μαρ (ἁμαρτημάτων), σα (ῥιπισθεῖσα), τα, τας, τες, τοις, τον, τος, του, τους, τω, των, τως (*ante*), ὑπο (ὑποδεθεῖσα), ων (*ante*); see also under Α, ΔΕ, ΕΙΝΑΙ, ΕΙΣ, ΠΑΡΑ. The most noticeable points are the use of some quite rare forms, such as ἐκ, κα, καρ, μα, μαρ, σα (μα and σα very frequently), the series of τ-syllables, and the absence of signs³ for αἰ, εἰν, ἰν, εἰς, ἰς, ὑπερ, ὑπο (in the more usual form, cf. *ante*), syllables which are so common in the Grotta Ferrata school. I add a phrase that I cannot at present decipher, from f. 190 r; the words immediately preceding are ταῦτα λέξας ὁ σωτήρ.

- (9) A manuscript in the Estense at Modena, ii. A. 12, S. Maximus de caritate, shows some tachygraphical influence: it is of the eleventh to twelfth century, membr. $5\frac{1}{4} \times 4$ in., ff. 135, in two hands, of which it is the former (ff. 1-56) that is partly tachygraphical. The non-tachygraphic abbreviations are uniformly of the later type: e.g. those for εἰς, ἰς, εἰν, ἰν (q. v. *ante*). Tachygraphic signs occur for ἀρ (σάρκός), ἰν (γινῶσιν, ποιῶσιν), παρ (*ante*), τα, τες, των (*ante*), ων (ὀστέων); the most noticeable of these is that for ἰν, which is very frequent. This hand is upright and well-formed, and bears some resemblance to the twelfth-

¹ MSS. from this Library are now to be found at Grotta Ferrata, e.g. Δ. a. xiii sq.

² Montfaucon's mistake had already been perceived, from a comparison of facsimiles, by Lehmann, p. 54.

³ That is, tachygraphic signs.

century type of Grotta Ferrata hand, as shown in B. α. iii. The second hand is quite dissimilar.

(10) I have next to mention a ms. that has long been famous in the history of Greek tachygraphy—that of Hermogenes at Paris, which is now numbered *grec* 3032. From this book Montfaucon took his ‘*notae rhetoricae et oratoriae omnium lectu difficillimae*,’ which for more than a century were the only published examples of Greek shorthand; they reappeared, as is well known, with an improved interpretation in Kopp’s ‘*Palaeographia Critica*,’ in 1817. It is not however with this venerable material that I have to concern myself. The book falls into two parts, the text and the marginal annotations, and it is the latter that Montfaucon published and Kopp revised. Of the text, on the other hand, no account hitherto has been taken; it offers nevertheless considerable palaeographical interest.

The ms. is a small vellum book, pp. 152, of no doubt the tenth century, in quaternions, written, mostly below the line, in a small upright ornamental minuscule, considerably ligatured; in the margin, not very constantly, are annotations in pure tachygraphy in the same hand as that of the text, and in characters quite as large. We have therefore an instance of what may be called the normal case for the introduction of tachygraphy into book-hand; the case namely where a scribe accustomed to practise the tachygraphical system sets himself to write a book for the purposes of an ordinary reading public. For much the greater proportion of his text, abbreviation of any sort is excluded; but at times, and especially at the ends of lines, it is legitimate, and it is inevitable that here, a scribe who is cognisant of tachygraphy will borrow signs from it as well as from the system of abbreviation ordinarily in use. Mss. of the sort are the London Nonnus, where the text is as a rule written out in full, not however without a diligent inspection of ends of lines yielding a fair return of

tachygraphical symbols, and the second part of Angel. B. 3. 11, where the tradition of the school manifests itself in the same manner in a twelfth-century hand.

This is precisely what has happened in the ms. in question, Par. grec 3032. The text is on the whole little contracted, but frequently at the ends of lines, and occasionally in the body of the paragraph, the scribe allows himself to shorten a word, adopting the same system as that in which he afterwards wrote his marginal comments. A considerable number therefore of signs usually considered tachygraphical may be taken from the text of this ms. I enumerate those that I have found, adding that as my study both of this and the following ms. was short, the list must not be considered exhaustive. Syllables represented are: αι (δύναμαι), απο (ἀποβλέπων), αρα (ἄρα), νου (αἰσχίνου), οι (δοῦλοι), ον (τόν, φίλιππον), ος (πλῆθος), ὅτι (*bis*), σ (παραδείγματος), ται (ἔσται), ταν (ὅταν), το (τοῦτο), ων (πλάτων). V. also s. ΟΥC.

(11) Another tachygraphical Paris ms., *grec* 990, has been indicated and in part described by Ch. Graux, in the brilliant sketch of Greek Tachygraphy to which I have already referred, *Journal des Savants*, 1881, pp. 316, 317. I learn from M. Omont that there is no likelihood of the complete study of the ms., which is there promised, being published, and I therefore take the opportunity of giving here such further particulars as I was able to gather during a short inspection of the ms. I lament that my account is not fuller, and does not better take the place of the authoritative study that was to have been expected of the regretted French palaeographer; but, as tachygraphy now stands, the addition of even a handful of new forms is worth making, especially when, as in the present instance, there are at hand the means for reproduction.

The ms. is dated 1030, and is of the ordinary minuscule of that period; there is nothing in the character of the hand to suggest the tachygraphical knowledge of the

scribe. The ordinary compendia that are used, e. g. for αικ, ειν, exhibit the later stage of the forms. The ms. contains the poems of S. Gregory Nazianzen with a prose paraphrase, in parallel columns; it is in the paraphrase, according to the necessities of space, as Graux clearly describes, that the abbreviations occur. I have observed the following, to which must be added the forms already quoted by Graux, the most interesting of which are πο and δοc :

αι (μωραίνοντες), αικ (ἀνοίαις), αλ (ὀφθαλμούς), ἀπο (ἀπὸ στέρησις), αυ (παύσεται), ελ (βέλτιστον), ἐπι (no. 1), ερ (παρέρχεται), ευ (πνεῦμα), ιν (καλοῦσιν), κα (κατέλαβεν), καὶ (no. 2), κατα (καταλαμβάνω), με (no. 3 μετά), οι (ἄνεμοι), ὁμοῦ (no. 4), ον (ὄντως, τόν), ου (συνελθούσης), παν (πάντως), ραυ (no. 5 κεραυνός), τα (πάντα, ταῦτα, ὑπερειδώματα), ται (φοβοῦνται), τας (καταφοβοῦντας), ταυ (v. ταῦτα above), τε (τέκνοις, ἡμετέροις), της (της θαλασσης), το (πρωτοκάθεδροι), τοις (τοῖς δικαίοις), τον (φθαρτόν, τόν), τος (κλαπέντος), του (τοῦ χρίστου), τω (ἀμυήτω), των (φοιτώντων), τως (οὔτως), ὑπο (ὑπὸ τὴν), ων (ὠθῶν).

A remark or two upon some of these forms may be in place; to discuss the ms. as a whole will need more complete examination. The syllables αλ, ελ, με, ραυ are of very great rarity. I do not know if parallels can be quoted from any ms. but Vat. 1809 and Add. mss. 18231. The form οι is illustrated by Graux l. c., and by Vitelli *Spic. Fiorent.* pp. 13, 168: it must still be called rare. The form ευ has been found by Martin in the scholia to the Ravenna Aristophanes; the tachygraphical π, as in πάντως, is very uncommon in ordinary bookhand; the sign for ον is not generally found on the line; καὶ represented by three dots occurs elsewhere in Vat. 1809, Add. mss. 18231, in some Laurentian mss. quoted by Vitelli, pp. 15, 32, and in the late ms. Vat. Pal. 73 discussed by M. Desrousseaux (v. p. 28, n. 1). With regard to the series of Tau-abbreviations, there is to be noticed the freedom with which the dots are superimposed instead (their more usual position), of being arranged one on either side of a stroke of the sign for the following syllable;

the $\tau\omega\nu$ of this ms. compared with the same syllable in Vat. 1982 will illustrate the difference. It is obviously a mere convenience of the scribe's, and not a distinct usage. A somewhat erroneous idea of the origin of these two dots is given by Gardthausen *Griech. Paläogr.* p. 199.

In conclusion it is convenient to notice here some mss. which offer one or two tachygraphical signs only. One such is a ms. of Galen, H. 45 in the Capitular Library of S. Peter's at Rome, of the xii–xiiith century, written on palimpsest vellum; the text offers no peculiarities, but at the end is written in red the sentence $\tau\omicron\upsilon\ \phi\iota\lambda\omicron\sigma\acute{o}\phi\omicron\upsilon\ \kappa\upsilon\rho\omicron\upsilon\ \phi\iota\lambda\alpha\gamma\acute{\alpha}\theta\omicron\upsilon$, in the manner represented in the plate. Not only the $\tau\omicron\upsilon$, but the plain strokes for the alpha in a ms. of this age, and the purely tachygraphical form of the ϕ , are very noticeable. A single tachygraphical form, $\sigma\alpha\varsigma$, is given in the word $\acute{\epsilon}\zeta\acute{\omega}\omega\sigma\alpha\varsigma$ (the context is $\acute{\eta}\varsigma\ \kappa\alpha\iota\ \tau\acute{\omicron}\nu\ \pi\alpha\iota\delta\alpha\ \acute{\epsilon}\zeta\acute{\omega}\omega\sigma\alpha\varsigma$) by Vallicell. E. 55 of the xith century. Other mss. of this sort that have already been described are Clarke 12 (v. s. $\mu\acute{\epsilon}\nu, \tau\epsilon$), Angelica T. I. 8 ($\tau\alpha, \tau\epsilon\varsigma, \tau\omega\nu, \tau\omega\varsigma$), Roe 16 ($\epsilon\nu$), Laud. gr. I ($\tau\acute{\eta}\nu$), Neapol. II. A a. 22 ($\tau\epsilon, \tau\omega\varsigma$).

Α σχῆμα ἐπιθεῖται ὁρίεται πρ πολλῶν

φιλ-Γ-Θυ πη[÷] τὰ κ[÷] ὑποσ[÷]'σε^ς

ματζίότη^ς ἡ^ς ἀπογορεύ^ς Βοκα^ς
ἀρπικ^ς ἡ^ς ταῦ^ς συμβραση^ς

ἀρπὲς τῶν ^ῥῥοῦ τῶν συμβρασιῶν

$$K \leq T \quad \text{ENC} \leq C \div T \quad E \div Z \div \div O \quad \text{log} \div$$

$\text{Ανισορροπία} \dot{\tau} \quad \dot{\chi} \dot{o} \dot{\nu} \dot{\tau} \quad \text{και} \dot{\tau} \dot{\zeta} \dot{\iota} \sigma$

$\rho_{\text{фн}} \cdot \pi L$ ρονμα: δοξορ:

τι πράγμα πάλι 3ος μυστικός πύλος

$\bar{n} \bar{p} \theta \sim \lambda \sigma$ $f \sim \gamma$ $u \sim p \sim q$ $\sigma \sim u \sim d \sim \tau \sim \mu$ $\sigma \sim u \sim d \sim \tau \sim \mu$ $\sigma \sim u \sim d \sim \tau \sim \mu$

π.ρ.α. αμ.ο.τ.η.μ.α.τ. φ.θ.ο.τ. υ.θ.μ.ε.ι.

ω' με μίτος 7 θρησ τ. Δεμ.

$$b_p^{1/2} \pi \lambda^{1/2} \sigma \gamma \quad u: \mathcal{S}^0 \quad \pi \nearrow \delta q m: \pi k^{\hat{z}}$$

Α1 γέμετρος πλευρς φίνετ εφσρα νήμφος κικδοσμον

Οι γορζοί πορσούν λατόχοι

Ναυροτ

ΔΙC ὁρθῖC τῖC ἑγωχῖ" τῖC ΔΙCΧῖ" ΔΥΤ" τῖC"

$\pi^2_C \psi^2_X$ $\beta \alpha \rho \epsilon^2 \delta \epsilon \epsilon^2 \gamma \beta \rho \epsilon^2$ τ $\omega \alpha \rho \epsilon^2$

ἁμαρτίᾳ ὁρμῇ τῇ αὐτῇ τοιοσ οἰκῇ

ὅρταις τέλει οὐαί δύο διὰ τὰ \overline{AB} \overline{BA}

Δυσὶ γ' ἐδ' ὁδὸν ἴσαι ἐν τ' ἀντ' ἐπαρχίαις

ΑΝ ἔδωκεν ὅτι ἐν ἡμετέροις οἷον περὶ

ὅτι περὶ οὐκ ἐκείνῳ λαβανόμενος ἀναλαμβάνει
ὑπολαμβάνει ἀντικειμένου

ΑΠΟ ὧν ὧν ὑπολογισμοὶ ὑφίσταται

ὧν ὑφίσταται ὧν ὑφίσταται ὑφίσταται ὧν

ὑφίσταται ὧν ὑφίσταται ὧν ὑφίσταται

ὑφίσταται ὧν ὑφίσταται ὧν ὑφίσταται

ὑφίσταται ὧν ὑφίσταται ὧν ὑφίσταται

ΑΡ ἐπεὶ ἡμετέροις ἀποδείκνυται ὡς ἔστιν

ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν

ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν

ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν

ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν ὡς ἔστιν

ΑΡΑ 1 2 3 4 5 6 7 8 9
10 11 12 13

ΑΣ ἀπαρτίζονται χρήματα χιρσὶ τῶν ἐνδοξῶν

ἐνδοξῶν σφύρας διὰ τὴν ἡμετέραν

γυμνασίαν

ΑΥ ἐνδοξῶν ἐνδοξῶν τῶν ἐνδοξῶν ἐνδοξῶν

ΑΥΤΟΣ ¹⁰αυ ¹¹αυ ¹²αυ ¹³εαυ ¹⁴οσαυ ¹⁵αυ του

ΓΑΡ ¹α ²α ³α ⁴α ⁵α ⁶α ⁷α ⁸α

⁹α ¹⁰α ¹¹α ¹²α ¹³α ¹⁴α ¹⁵α
¹⁶α ¹⁷α ¹⁸α ¹⁹α ²⁰α ²¹α ²²α
 αφσρ αααααα

ΓΙΝΕΤΑΙ ¹α ²α ³α ⁴α ⁵α ⁶α
⁷α

ΔΕ ¹α ²α ³α ⁴α ⁵α ⁶α

Ε.Η ¹α ²α ³α ⁴α ⁵α ⁶α

οιοπαζι δημητρ ερρεσσαρ τιμωρεθςσρ
 τιν δζμμετο πο αμαρτιας κρρεκ

ΕΙΝ, ΗΝ ¹α ²α ³α ⁴α ⁵α ⁶α
 ΙΝ ¹α ²α ³α ⁴α ⁵α ⁶α
 αααα

ΕΙΣ ¹α ²α ³α ⁴α ⁵α ⁶α
 παρηγυρ ¹α ²α ³α ⁴α ⁵α ⁶α
 αααααα

αὐτῶν τῶν αὐτῶν

IC συνθεσῖ κρίσῖ ἀναγνωσῖ τῖ μορφωσῖ
 λογῖμοιῖ βαπτῖματος κρατῖτε ζωοποιῖτε

HC ὁτιγῖ ἀπὸ γῖ καλῖπτονῖ φραγῖονῖ ἡνῖκα

ΕΙΝΑΙ 1 2 3 4 5 6 7 8 9 10 11
 12 13 14 15 16 17 18

EN ἡτοι ἐοικῖ εἰώθαμῖ ἔβληθα πῖ θορῖ
 ἔθῖ ἔχῖ οὐθῖ ἔλῖ
 [ωζομῖ] σοφῖαμῖ μεῖ ὁθῖ μῖ
 ἔ ἔ ὑπομελισομῖ ὁμῖλῖ μεῖ
 λογομῖ εἰσῖομῖ εἰχῖ

EP ὁπῖ ἡπῖ ὁπῖ ἡπῖ ὁπῖ ὑπῖβομῖ
 ὑπῖ ὁπῖ ὑπῖ ἡπῖ ὁπῖ ὁπῖ
 ἀπῖ με δῖ με τίρῖ ὑπῖφῖοι ὁπῖ ὑπῖ
 ὁπῖ ὁπῖ ὁπῖ ὁπῖ ὁπῖ ὁπῖ

EC ΝΙΚῖ ΓΕΝῖ ἈΡῖ ΕΖῖ ΠΑΞΑΝῖ ΛΕΟΝῖ

δῖ ποῖ συρῖρανῖ ἑρίζῖ ἡφῖ
 ἡλῖ ἡλῖ μερῖ δῖ κοῖωῖ ἀμῖ
 δεδῖκότῖ δαίμορῖ πῖ σημαῖρῖ καρῖ

ἄπαρτ' ἰδοῦτ' υλποντ' δαιμονῶντ'
βιησὴν ὡτ'

ECTAI 1 2 3 4 5 6 7 8 9 10
 α' β' γ' δ' ε' ς' ζ' η' θ' ι'
 11 12 13 14 15 16 17 18 19
 κ' λ' μ' ν' ξ' ο' π' ρ' σ' τ'
 20 [θ']
ECTI 1 2
 α' β'

Ι υομμετ' μὴδητ' γεωρ' κορυελέομ'

ΙΝΑ 1 2 3
 ι' λ' ρ'

Κ ἰατρις ἀριθμητ' ἐπιθυμητ' ἰαμβις πομ'
θῶρητ' βιηλησπ' απεμ' ιυσπιδεμ'
μορις/ αποσολις φημηματις
ἄποσ' αλας μι ῥρη ἐρίνωσς κας
μας θυδομηκοῦντας

ΚΑΙ ὁμοσων σαρεία σπορ δ'σαρος ρισα

ΚΑΤΑ 1 2 3
 α' β' γ' δ' ε' ς' ζ' η' θ' ι'
 11 12 13 14 15 16 17 18 19
 κ' λ' μ' ν' ξ' ο' π' ρ' σ' τ'
 20 21 22 23 24 25 26 27 28 29 30
 31 32 33 34 35 36 37 38 39 40
 41 42 43 44 45 46 47 48 49 50
 51 52 53 54 55 56 57 58 59 60
 61 62 63 64 65 66 67 68 69 70
 71 72 73 74 75 76 77 78 79 80
 81 82 83 84 85 86 87 88 89 90
 91 92 93 94 95 96 97 98 99 100
 101 102 103 104 105 106 107 108 109 110
 111 112 113 114 115 116 117 118 119 120
 121 122 123 124 125 126 127 128 129 130
 131 132 133 134 135 136 137 138 139 140
 141 142 143 144 145 146 147 148 149 150
 151 152 153 154 155 156 157 158 159 160
 161 162 163 164 165 166 167 168 169 170
 171 172 173 174 175 176 177 178 179 180
 181 182 183 184 185 186 187 188 189 190
 191 192 193 194 195 196 197 198 199 200
 201 202 203 204 205 206 207 208 209 210
 211 212 213 214 215 216 217 218 219 220
 221 222 223 224 225 226 227 228 229 230
 231 232 233 234 235 236 237 238 239 240
 241 242 243 244 245 246 247 248 249 250
 251 252 253 254 255 256 257 258 259 260
 261 262 263 264 265 266 267 268 269 270
 271 272 273 274 275 276 277 278 279 280
 281 282 283 284 285 286 287 288 289 290
 291 292 293 294 295 296 297 298 299 300
 301 302 303 304 305 306 307 308 309 310
 311 312 313 314 315 316 317 318 319 320
 321 322 323 324 325 326 327 328 329 330
 331 332 333 334 335 336 337 338 339 340
 341 342 343 344 345 346 347 348 349 350
 351 352 353 354 355 356 357 358 359 360
 361 362 363 364 365 366 367 368 369 370
 371 372 373 374 375 376 377 378 379 380
 381 382 383 384 385 386 387 388 389 390
 391 392 393 394 395 396 397 398 399 400
 401 402 403 404 405 406 407 408 409 410
 411 412 413 414 415 416 417 418 419 420
 421 422 423 424 425 426 427 428 429 430
 431 432 433 434 435 436 437 438 439 440
 441 442 443 444 445 446 447 448 449 450
 451 452 453 454 455 456 457 458 459 460
 461 462 463 464 465 466 467 468 469 470
 471 472 473 474 475 476 477 478 479 480
 481 482 483 484 485 486 487 488 489 490
 491 492 493 494 495 496 497 498 499 500
 501 502 503 504 505 506 507 508 509 510
 511 512 513 514 515 516 517 518 519 520
 521 522 523 524 525 526 527 528 529 530
 531 532 533 534 535 536 537 538 539 540
 541 542 543 544 545 546 547 548 549 550
 551 552 553 554 555 556 557 558 559 560
 561 562 563 564 565 566 567 568 569 570
 571 572 573 574 575 576 577 578 579 580
 581 582 583 584 585 586 587 588 589 590
 591 592 593 594 595 596 597 598 599 600
 601 602 603 604 605 606 607 608 609 610
 611 612 613 614 615 616 617 618 619 620
 621 622 623 624 625 626 627 628 629 630
 631 632 633 634 635 636 637 638 639 640
 641 642 643 644 645 646 647 648 649 650
 651 652 653 654 655 656 657 658 659 660
 661 662 663 664 665 666 667 668 669 670
 671 672 673 674 675 676 677 678 679 680
 681 682 683 684 685 686 687 688 689 690
 691 692 693 694 695 696 697 698 699 700
 701 702 703 704 705 706 707 708 709 710
 711 712 713 714 715 716 717 718 719 720
 721 722 723 724 725 726 727 728 729 730
 731 732 733 734 735 736 737 738 739 740
 741 742 743 744 745 746 747 748 749 750
 751 752 753 754 755 756 757 758 759 760
 761 762 763 764 765 766 767 768 769 770
 771 772 773 774 775 776 777 778 779 780
 781 782 783 784 785 786 787 788 789 790
 791 792 793 794 795 796 797 798 799 800
 801 802 803 804 805 806 807 808 809 810
 811 812 813 814 815 816 817 818 819 820
 821 822 823 824 825 826 827 828 829 830
 831 832 833 834 835 836 837 838 839 840
 841 842 843 844 845 846 847 848 849 850
 851 852 853 854 855 856 857 858 859 860
 861 862 863 864 865 866 867 868 869 870
 871 872 873 874 875 876 877 878 879 880
 881 882 883 884 885 886 887 888 889 890
 891 892 893 894 895 896 897 898 899 900
 901 902 903 904 905 906 907 908 909 910
 911 912 913 914 915 916 917 918 919 920
 921 922 923 924 925 926 927 928 929 930
 931 932 933 934 935 936 937 938 939 940
 941 942 943 944 945 946 947 948 949 950
 951 952 953 954 955 956 957 958 959 960
 961 962 963 964 965 966 967 968 969 970
 971 972 973 974 975 976 977 978 979 980
 981 982 983 984 985 986 987 988 989 990
 991 992 993 994 995 996 997 998 999 1000
 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010
 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020
 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030
 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040
 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050
 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060
 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070
 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080
 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090
 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100
 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110
 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120
 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130
 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140
 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150
 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160
 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170
 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180
 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190
 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200
 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210
 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220
 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230
 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240
 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250
 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260
 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270
 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280
 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290
 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300
 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310
 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320
 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330
 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340
 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350
 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360
 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370
 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380
 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390
 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400
 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410
 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420
 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430
 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440
 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450
 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460
 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470
 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480
 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490
 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500
 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510
 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520
 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530
 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540
 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550
 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560
 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570
 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580
 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590
 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600
 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610
 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620
 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630
 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640
 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650
 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660
 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670
 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680
 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690
 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700
 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710
 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720
 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730
 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740
 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750
 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760
 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770
 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780
 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790
 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800
 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810
 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820
 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830
 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840
 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850
 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860
 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870
 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880
 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890
 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900
 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910
 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920
 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930
 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940
 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950
 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960
 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970
 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980
 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990
 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000
 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020
 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030
 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040
 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050
 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060
 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070
 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080
 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090
 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100
 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110
 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120
 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130
 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140
 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150
 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160
 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170
 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180
 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190
 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200
 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210
 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220
 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230
 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240
 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250
 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260
 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270
 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280
 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290
 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300
 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310
 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320
 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330
 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340
 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350
 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360
 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370
 2371 2372 2373 2374 2375 2376

Λ κ̄κ̄δ̄ ὑ̄κ̄ε̄ π̄ παῡ η̄ῑ κύμωδ̄ ῡσφᾱ αμω̄
 ε̄χολ̄ βασῑ π̄ω̄ σω̄σθ̄ ο̄ ᾱπ̄ τε̄
 παῡ β̄σῑ ῡω̄ ἐπ̄ισ̄ κ̄ω̄ π̄ δ̄ω̄
 τοῡ δ̄αῡ) θε̄δ̄
 ΛΟΓΟΣ ο̄ λ̄ λ̄ λ̄ ἀλ̄ ἐγ̄ λ̄ καιν̄όλ̄ λ̄² λ̄² ᾱλ̄

ΜΕΝ γ̄ γ̄ θ̄η̄ρ̄σ̄ζ̄

ΜΕΤΑΞΥ ω̄ξ̄ῑ

ΟΜΟΥ 1 2 3 4 5 6 7 8
 # # # # # # # #

ΟΜΟΙΩΣ ο̄ γ̄ῑ

ΟΝ φυλ̄ῑτ̄ μ̄ο̄ρ̄ ἀρ̄χ̄ ἀγᾱῑ π̄ζ̄τες
 ἐκ̄τες ἴ̄τως λ̄γ̄ῑ φ̄ί̄μ̄π̄η̄ τ̄ῑ

ΟΣ ἀποσ̄ρ̄ ε̄ν̄ε̄ρ̄γ̄οῡῑ π̄ρ̄ ο̄ αν̄ρο̄ῑ
 ρ̄ῡρ̄ε̄ῑ π̄ρ̄η̄η̄ ἐκᾱσ̄ π̄ρ̄ π̄ π̄ ρ̄ᾱπ̄ε̄θ̄ε̄ρ̄ῑ
 χ̄ῑμᾱτ̄ικ̄ω̄ρ̄ λ̄² ῡφ̄ᾱπ̄η̄ π̄ρ̄ ῡ² ἴ̄κ̄τε̄ρ̄

ΟΤΙ 1 2 3 4 5
 ρ̄ ρ̄ ρ̄ ρ̄ ρ̄

ΟΥΝ καλ̄ε̄ταῑ ο̄π̄ω̄ς̄ ἴ̄² ῡε̄ῡαῑ ο̄η̄² τ̄ος̄

ο̄η̄
 ΟΥΣ ἀλλ̄ τ̄ῑ τ̄ό̄π̄η̄ π̄ν̄ικ̄γ̄ τ̄ο̄ῑ^{ss} τ̄^{ss} π̄ισ̄ᾱο̄ρ̄ῑ
 τ̄^{ss} χ̄ρ̄ό̄ν̄ τ̄^{ss} ἴ̄^{ss} λ̄γ̄^{ss} ᾱν̄τ̄^{ss} ἀλλ̄^{ss}
 θ̄ε̄ᾱθ̄ε̄ρ̄ο̄μ̄ε̄ῑ ᾱν̄τ̄^{ss} χ̄ρ̄ῑσ̄τ̄ᾱρ̄ο̄ῑς̄

ΥΠΕΡ χ^{τ} $\rho\phi\omega\kappa\epsilon^{\tau}$ ξ^1 ξ^2 ξ^{α} ξ^{λ}

ξ^3 ξ^{μ}

ΥΠΟ χ^1 χ^2 χ^3 χ^{α} χ^{ζ} χ^{η} χ^3

ψ $\delta\epsilon\iota\kappa\nu\acute{o}\nu$

ψ $\kappa\alpha\kappa^{\nu}$ ψ^4

$\psi\delta\epsilon\delta\alpha\sigma$ ψ^5

ΩΝ $\tau\acute{o}\nu\tau$ $\alpha\rho\chi^{\tau}$ $\pi\lambda\alpha\tau^{\tau}$ $\eta\mu\acute{\epsilon}\tau\eta$ $\theta\epsilon\epsilon\rho\eta\mu\alpha\tau^{\tau}$

τ $\alpha\gamma^{\tau}$ τ^1 τ^2

$\omega\rho\alpha\tau^{\tau}$ π^{τ}

τ^{τ} $\chi\nu\chi$

$\tau\omega\rho$ $\alpha\iota\rho\acute{\eta}\tau\epsilon$

ΩΡ $\rho\eta\tau^{\tau}$ $\tau\epsilon\eta\kappa$ $\theta\kappa\tau^{\tau}$ $\mu\eta\tau\omicron\pi\alpha\tau^{\tau}$ $\alpha\nu\tau\lambda\eta\tau^{\tau}$

$\psi\delta$ $\acute{o}\rho\eta\tau^{\tau}$ $\pi\alpha\rho\tau\omicron\kappa\rho\acute{\alpha}\tau^{\tau}$ $\tau\epsilon\eta^{\tau}$

ΩC ω δ^{τ} $\alpha\tau\eta\kappa^{\tau}$ $\acute{\alpha}\nu\tau^{\tau}$ $\mu.$ $\acute{\omega}\varsigma$ $\omicron\iota\omicron\nu$

π $\pi\omega\sigma$ $\acute{o}\phi\epsilon\tau$ ι^{τ} $\epsilon\iota\tau\epsilon$ $\phi\acute{\upsilon}\sigma\epsilon\iota$

$\epsilon\iota\pi\eta$ γ^{τ} $\acute{\epsilon}\rho\epsilon\iota$ $\eta\tau\epsilon$ $\zeta\pi\epsilon\rho$ η^2

ΩCΠΕΡ γ^1 γ^2 $\acute{\omega}\varsigma$ $\acute{o}\gamma$

ΧΩΡΙΟΝ \neq^1 \neq^2 \neq^3 \neq^4

(1) $\hat{X} \hat{T} \hat{Y} \hat{X}$ и $\hat{X} \hat{Y} \hat{X} \hat{Y}$

(11) φ'δρο'τε θυχ' ψ' υπ'όχλ
 συμπράγλ κατ'εργε' γλ:θί'σ'
 β'αβλ ιδ'σ' ιλδ'σ' ρ'τε τ'ρ'
 ι'σ' ξ' ξ'νοίλ

(III) CHM'NEI Πῶρίῳ Πυχίῳ ἡμῶν οὐδῶν
ἡμεῖς μὲν τὰς ἀληθινὰς

(IV) $\sigma\mu\sigma\mu\bar{\iota}$ $\delta\theta\acute{\iota}\mu\bar{\iota}$ $\delta\iota\mu\bar{\iota}\bar{\iota}$ $\bar{\iota}\phi\acute{\iota}\mu\bar{\iota}$
 $\bar{\iota}\theta\mu\bar{\iota}$ $\delta\sigma\mu\sigma\mu\sigma\bar{\iota}$ $\bar{\iota}\delta\bar{\iota}$

(V) $\nu \cdot \theta \cdot \phi \cdot \psi$ $\nu \cdot \phi \cdot \psi$ $\lambda \gamma \cdot \psi$ $\chi \delta \eta \mu \alpha$
 $\chi \delta \eta \mu \alpha$ $\sigma \cdot \phi \cdot \psi$ $\lambda \delta \eta \mu \alpha$ $\lambda \cdot \psi$ $\eta \cdot \phi \cdot \nu \cdot \rho \cdot \mu \cdot \alpha$
 $\mu \cdot \eta \cdot \chi \cdot \delta \cdot \eta \cdot \mu \cdot \alpha$ \cdot \cdot \cdot \cdot \cdot \cdot
 $\eta \cdot \mu$ $\rho \cdot \delta \cdot \eta \cdot \mu \cdot \alpha$ $\pi \cdot \alpha$ \cdot \cdot \cdot \cdot \cdot
 $\chi \cdot \delta \cdot \eta \cdot \mu \cdot \alpha$

(VI) $\frac{\delta}{\delta} \mu^i$ $\frac{\delta}{\delta} \tilde{t}$ $\delta \mu^i \delta \mu^j$ $\delta \mu^i \delta \mu^j$

f. 390 $\frac{\delta}{\delta} \mu^i$ $\frac{\delta}{\delta} \tilde{t}$ $\delta \mu^i \delta \mu^j$ $\delta \mu^i \delta \mu^j$

(VII) $\dot{h}_T^s \dot{h}_T^f \dot{e}h_T^u \dot{h}_T^f$

f.67 θέσται ἡ ῥῆσις τῆς ἐκείνου ἡλέπορι

(VIII) πειρομλ ἐρτθ- ὑπ' ἴν γ. θυμίας
 εταχόμε' LXXIβ~νι' Lοδτ εφθέρη
 αρερ> αδτηγτ ῥιπθδῆο γδεδῆο
 f. 190 T cy ξ 2 V L

(IX) σιοὺ κῶσι ποιῶσι ὁ σῆ

(X) δυνάμει ὑμετέσων ἔ' αἰσχίε
 δοῦρ T' φίλπη πρῶτῃ ὁ' ὁ'
 παραδέχματος ῥ'ν ὁ' τοῦε πρᾶτ

(XI) μῦρορ> ἀνοῖ ὁφθμύ ἔτ' ἔμῃ
 ἥσας ἄτῃ T' πρ'χτῆς πρῶμα
 καρῶσ ε' πάλαιον ὁ' 2 ε' λαμνάρ
 3 γ' 4 ἀνεμ' 4 ὁ' τοῦε ὁ' σὺθ' 5
 ἔν' 5 κρῶ' π' 6 ῥ' ὑπερδῆμ
 φοῦρ> καταφοῦρ> ῥ' κν ἡμγίρ>
 ῥ' θ' τ' α' πρ' δ' ε' δ' ῥ' ῥ' κ' ῥ' φ' θ'
 ὁ' κρατῶ' ὁ' γ' ἀμνήν φοιτῶ
 ὁν' ὁ' τ' ὁ' θ'

ὁ φιλοσόφου ὁ γ' φιλ-θου

θ' ὁ ὁ ε'

London
HENRY FROWDE



OXFORD UNIVERSITY PRESS WAREHOUSE
AMEN CORNER, E.C.